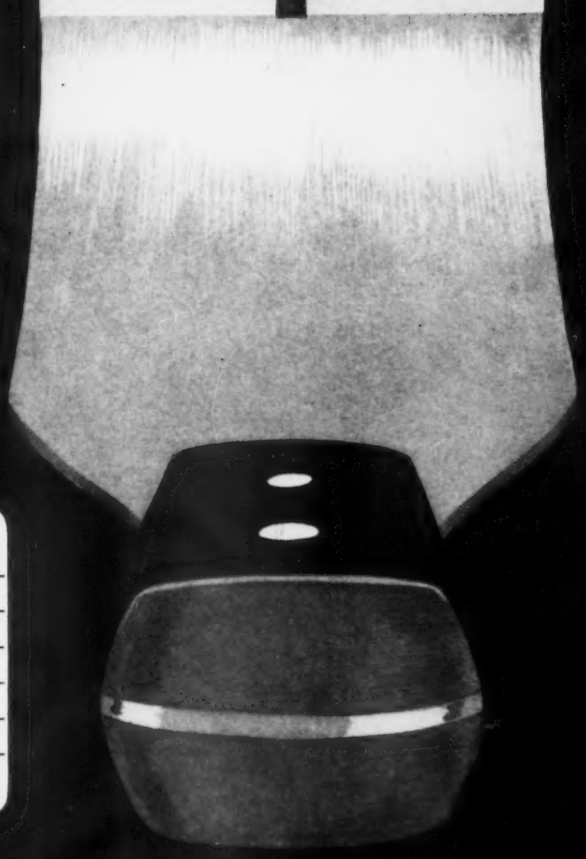
PRINTING EQUIPMENT *Engineer*

try-wide Technical Pu



PLEASE ROUTE THIS COPY TO

Manager	Pressroom Foreman
Production Mgr.	Bindery Foreman
Plant Supt.	Mailing Foreman
Platemaking Foreman	Maintenance Supt.
Composing Foreman	Purchasing Agt.

For filing, please return to

IMPROVED PRODUCTION TOOL

the Star HYDRAULIC Quadding Attachment

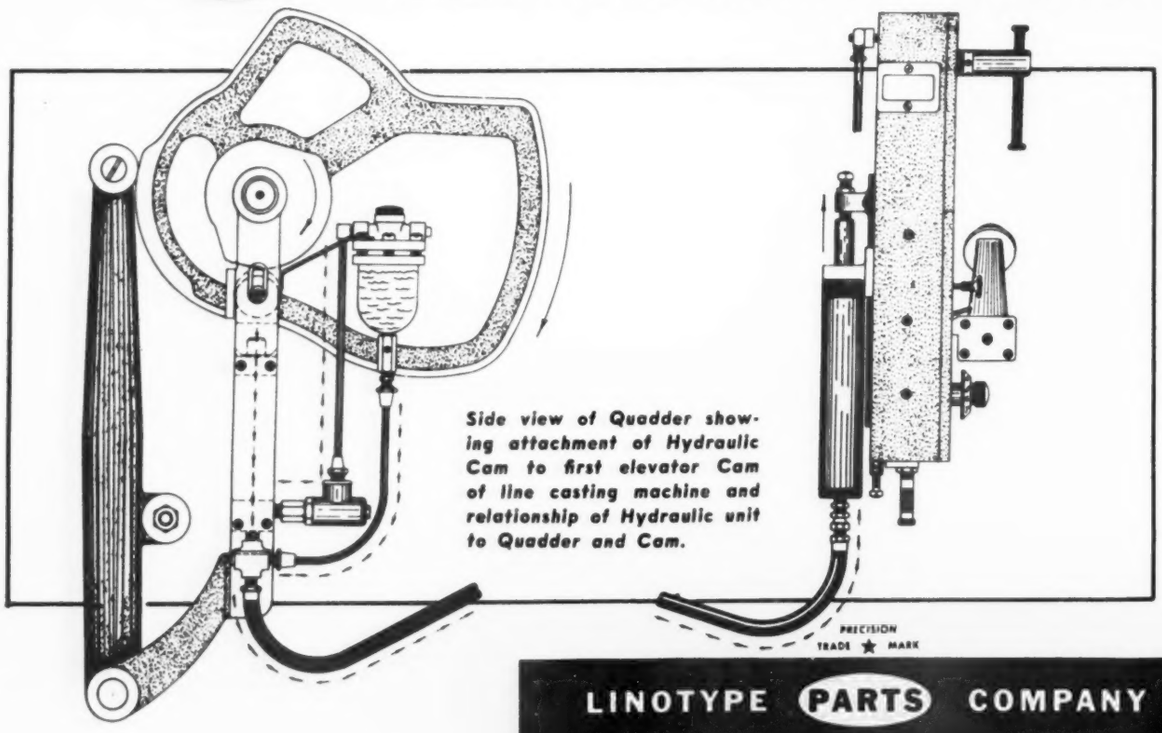
Mechanical Superintendents and Foremen have been waiting for this trouble-free new model Star Hydraulic Quadding Attachment.

Publishers would do well to check into its potential for increasing production on ad, head or classified machines. Details on this sensational new Model F Star quadder can be obtained by writing to the home office.

NOTE TO PRESENT STAR QUADDER USERS:

No Star Quadder is obsolete. Your present one can be converted to a hydraulic type

FOR LINOTYPE AND INTERTYPE MACHINES — OLD OR NEW!



Side view of Quadder showing attachment of Hydraulic Cam to first elevator Cam of line casting machine and relationship of Hydraulic unit to Quadder and Cam.

PRECISION TRADE ★ MARK

LINOTYPE PARTS COMPANY

INCORPORATED

Factory and Main Office
SOUTH HACKENSACK, N. J.

Branch Office
1327 BROADWAY, KANSAS CITY 6, MO.

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THE MACHINERY TO SEE IN '53...IS COMING FROM STA-HI!

5,000 STEREOTYPERS CAN'T BE WRONG!

We estimate that in the more than 600 plants now operating very close to 1,000 Sta-Hi Master Formers, there are some 5,000 stereotypers who know at first hand the advantages of this fine, precision equipment.

They are experienced, careful craftsmen and they appreciate machinery that helps them do a better job, day in and day out, year after year—that eases the burden of meeting deadlines of exacting newspaper production schedules.

STA-HI MASTER FORMER

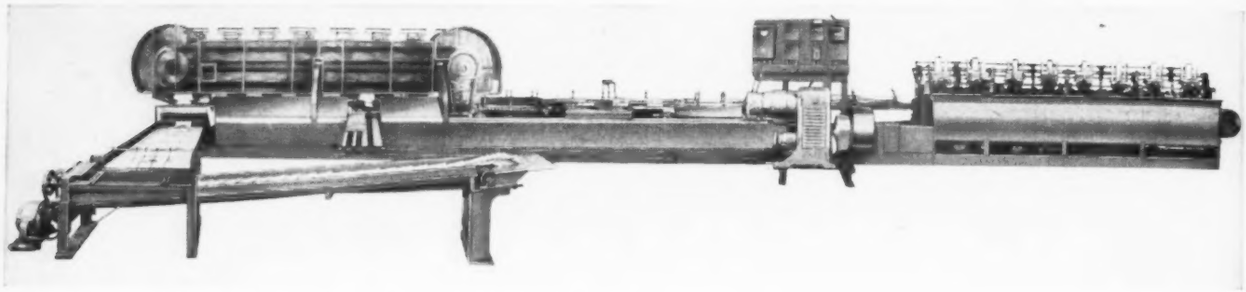
More than that, the men who man the Master Formers in publishing plants around the world are proud of the results made possible by this entirely automatic mat processing machinery.

For better mats, better plates, better printing, the Sta-Hi Master Former is matchless—in performance and in product. Write for complete information.

STA-HI CORPORATION
Box 152, Whittier, California

OUR SILVER ANNIVERSARY OF SERVICE 1928 STA-HI® 1953 TO AMERICAN NEWSPAPER PUBLISHING

Gathers and stitches...or gathers and perfect binds ...and applies covers to paper bound books and magazines in one automatic, continuous operation



The Dexter-Martin Gatherer, Stitcher, Binder and Coverer

This is a completely newly engineered combination of several machines in one. It is built in two types:

The Coverer **— which gathers, wire stitches and applies covers to paper covered booklets and magazines of up to 7/8" thickness.**

The Perfect Binder **— which gathers, perfect binds and applies covers to similar publications of up to 1¼" maximum thickness.**

Either combination will handle signatures from 5 x 7" minimum to 12 x 16" maximum.

In each type the basic gatherer is built with a minimum of eight pockets or hoppers which may be expanded in units of four to handle any desired number of signatures.

Signatures are gathered, accurately jogged and headed-up, either wire stitched or perfect bound with or without crash, using either animal or hot melt glue. Covers are fed in and formed around books to square backs and the completed books or magazines are then delivered ready for trimming.

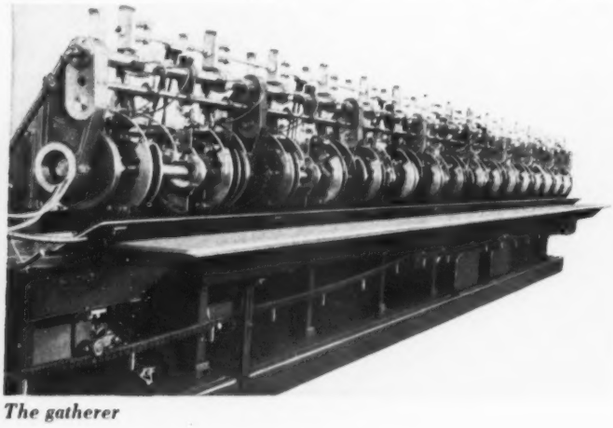
The delivery for either type machine may be the straight right angle stacker, or left or right packer box.

The machine operates at a geared speed of 150 cycles per minute. Actual production will necessarily depend on nature of work, quality and weight of paper and care with which signatures are placed in pockets.

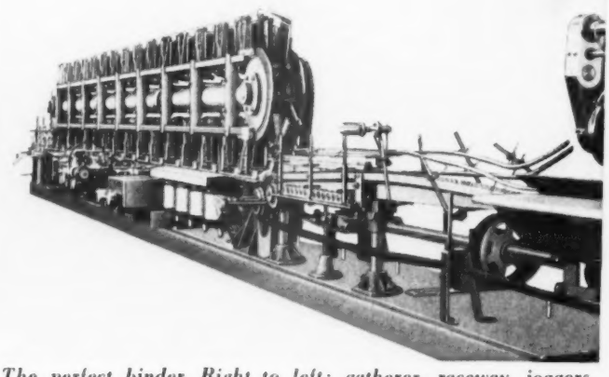
This machine can be built in a variety of arrangements to adapt installation to space available and other plant considerations.

As a saver of time and labor, a production booster and a handler of volume with speed and efficiency, the Dexter-Martin Gatherer, Stitcher and Coverer is a profitable investment for those requiring in large volume the work it does.

The Dexter representative is ready to discuss its application to your production and to help in preparing an analysis of its earning power under various rates of production.



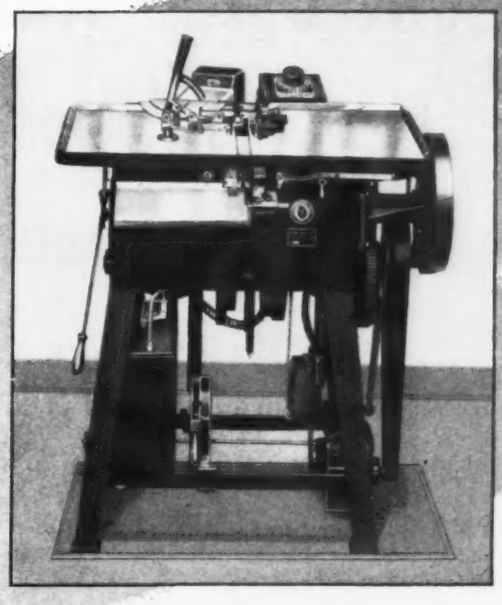
The gatherer



The perfect binder. Right to left: gatherer, raceway, joggers, grinder and glue pots

Dexter Folder Company *General Sales Offices* 330 West 42nd Street, New York 36, N.Y.

Boston, Philadelphia, Washington, Cleveland, Chicago, St. Louis. Agents in principal foreign countries.



The LUDLOW

Offers All Of These Advantages

- Type supply that never runs out
- Up-to-the-minute typeface designs
- Wide selection of faces—full size range
- No worn or broken letters
- Used effectively by competent compositors
- Instant change of size or face
- Faster setting—matrix "gathering"
- Easy alignment of different sizes
- Rapid and easy spacing
- Economies of all-slug make-up
- Multiple forms by recasting slugs
- Self-quadding and self-centering sticks
- Long lines with single justification
- Unbreakable italics and scripts
- Slugs withstand severe molding pressure
- No work-ups on press—low quadding
- Accurate slug-height reduces make-ready
- Surfaced slugs for quality printing
- Forms once corrected stay correct
- Simplicity of mechanism and operation
- Economical ruleform composition
- All operating time chargeable
- Economy of floor space
- Low-cost PROFITABLE composition

The Elrod for leads, slugs, rule and base material in any quantity

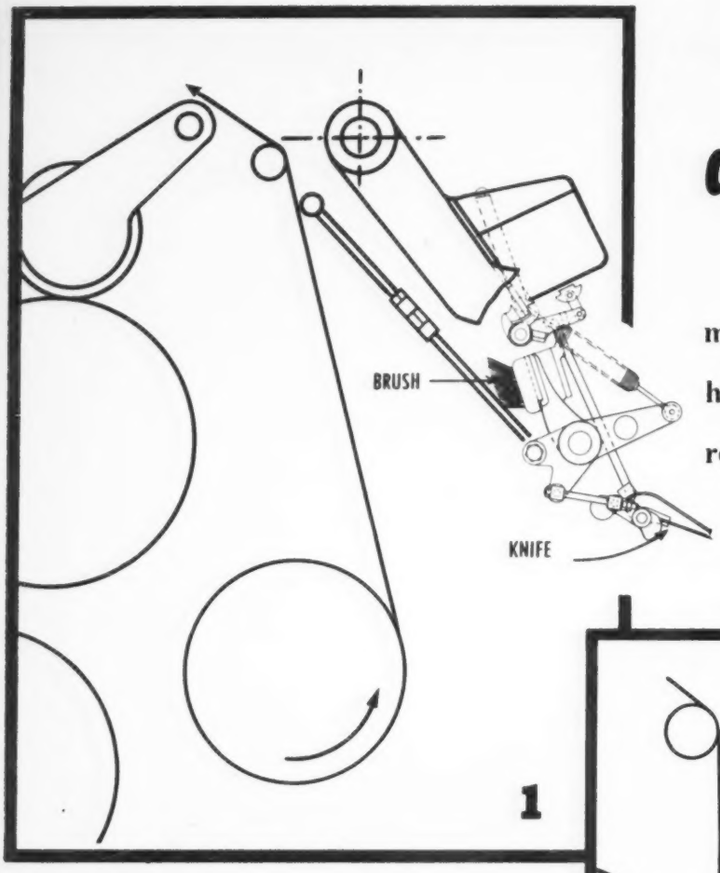
Ludlow Typograph Company 2032 Clybourn Avenue, Chicago 14, Illinois

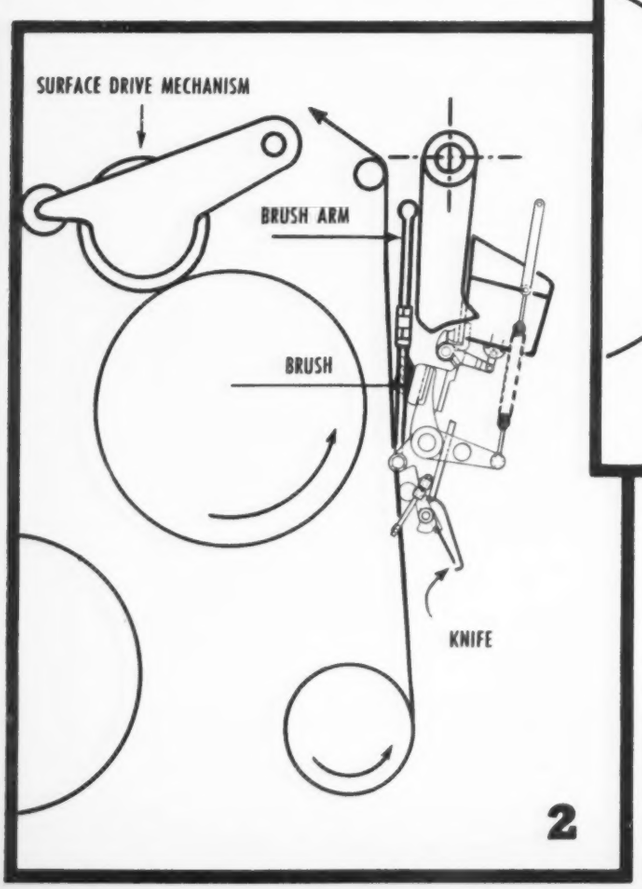
Set in members of the Ludlow Tempo family

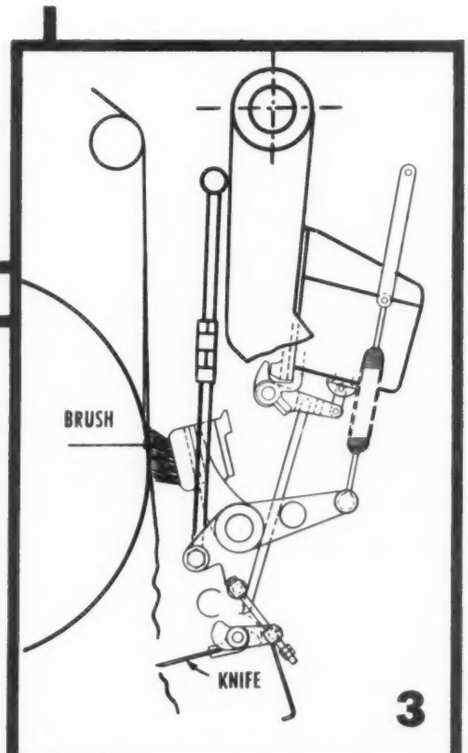
Examine the Wood Electro-Tab Autopaster

Renews Paper Supply at Running Speed of Press

The WOOD Electro-tab Autopaster is an unmatched means of speeding-up web-fed printing production. This highly efficient equipment can be installed above any three-roll reel and operates in the following five simple steps:







1. The Reel is rotated to correct pasting position. (Fig. 1)

2. The Brush Arm is lowered and automatically locked in correct position for pasting. (Fig.2)

3. Our Patented Surface Drive Mechanism accelerates new roll to, and maintains it at, the correct web speed. (Note: As yet, the newly accelerated roll does not contact the running web nor does it affect the tension on the expiring roll.)

4. The electrically timed brush is automatically released to attach the expiring web to the new roll; the knife automatically severs the web from the butt. (Fig. 3)

5. The Brush Arm is returned to its non-operating retracted position and the reel is rotated forward to the running position.

Send for illustrated literature

IF IT'S Wood IT'S GOOD

WOOD NEWSPAPER MACHINERY CORPORATION

PLAINFIELD, NEW JERSEY

SALES OFFICE: 501 FIFTH AVENUE, NEW YORK 17

PRINTING EQUIPMENT *Engineer*

AN INDUSTRY-WIDE TECHNICAL PUBLICATION

Published especially for management, production and mechanical executives responsible for printing production and the specification of equipment and supplies used in the commercial, magazine, private plant and daily newspaper fields.

Volume 83 **Number 5**

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HERE'S HOW IMPERIAL'S DROSS EXCHANGE SERVICE WORKS...

WE SUPPLY THIS...

Imperial dross drums are loaned without charge—250 or 500 or 750 lb. size.

YOU DO THIS...

Accumulate your dross in one of these drums. Then ship it to us.

WE DO THIS...

We send you in pound-for-pound exchange at low cost differential the PLUS METAL to maintain your working metal at satisfactory casting efficiency.

Imperial Dross Exchange Service is a systematic minimum-cost way of making your dross pay a dividend. Why not profit from this Imperial service as thousands of others are doing? Mail us a post card stating the size dross drum you would like.

Imperial

TYPE METAL COMPANY

SERVING THE GRAPHIC ARTS *Exclusively*

PHILADELPHIA 34 • NEW YORK 7 • CHICAGO 50

Star Spaceband Stop Pins... *Don't Fall Out!*

This feature of the Star Spaceband shows the extreme attention to detail practiced in the manufacture of Star Parts. The illustration shows how the Hollow Back Stop Pin, which replaces the brass stop pin of other manufacture, is used to prevent loss of the pin which otherwise would occur.

WHAT IS A SPACEBAND?
Just Off the Press!
Write today for this new folder — WHAT IS A SPACEBAND? It contains facts you should know about what to expect of a good spaceband.
TRADE ☆ MARK
CROSS SECTION SHOWING PIN INSERTED
PIN BEFORE BEING INSERTED

PRECISION TRADE ★ MARK

LINOTYPE PARTS COMPANY

INCORPORATED

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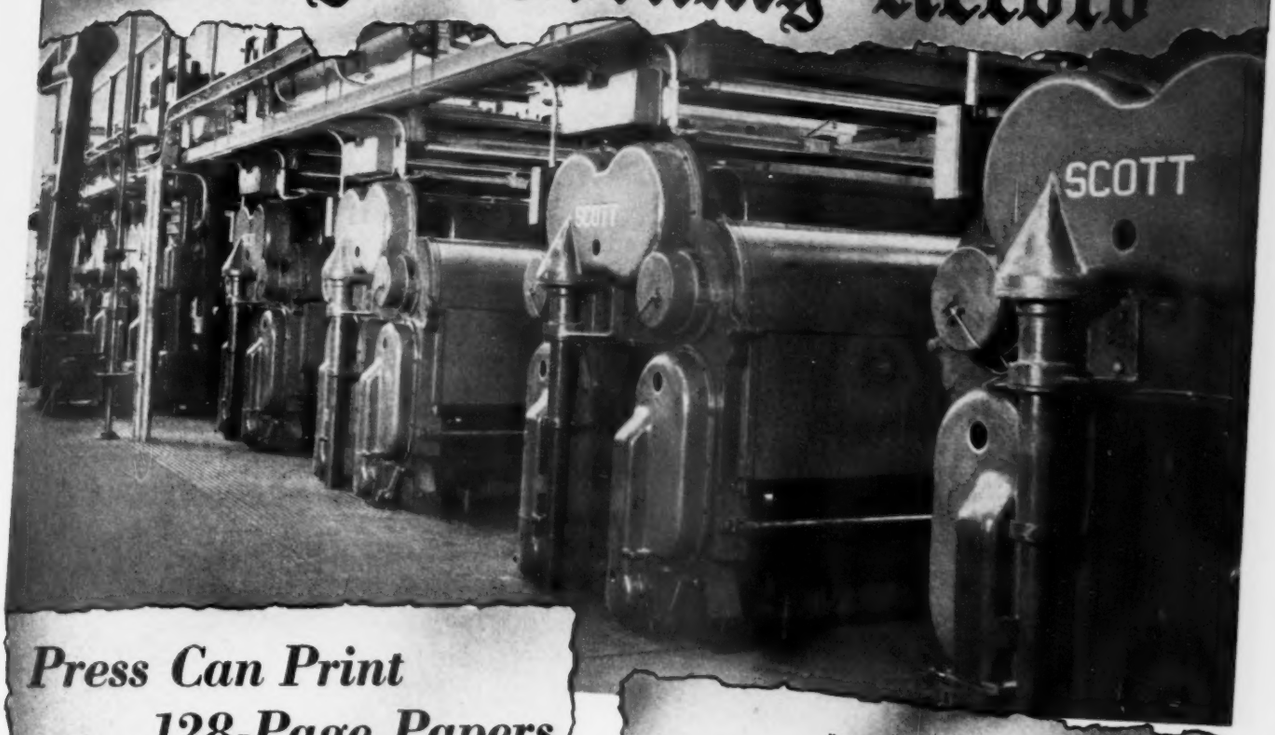
Bergen Evening Record



Press Can Print 128-Page Papers

104 Feet Long, Structure Covers Major Section Of Record Wing

The new 295-ton Bergen Evening Record SCOTT printing press—so big that it occupies practically a whole wing in the new Record plant—is an engineering achievement capable of delivering editions as large as 128 pages in one day.

In an ultra-modern, honey-colored tiled press room the 104-foot-long structure of the press is an array of complexity—cylinders, rollers, push-buttons and brightly colored lights are set against the massive gray-toned steel framework.

Each unit of this latest-model Scott Press is an intricate piece of printing equipment, complete with its own individual 40-horsepower motor, capable of turning out 16 pages at one time. A special control room is needed to keep all units co-ordinated by electronic drive when the entire press is running. Each unit can be operated individually when necessary.

When all eight units are running, the press will have a capacity for printing a 64-page edition on a straight run at a normal running speed of 42,000 newspapers an hour, but it will have a maximum capacity of 50,000 every 60 minutes—about 830 newspapers in one minute.

* * * * * *

Of all the new features in the press, the electronic drive is the most outstanding. It assures a smoother-running press run because the control room panels enable the machinery to build up speed evenly with none of the jerking found in less modern equipment. Instead of a harsh-sounding clatter, the press has a humming sound when in operation. Roller-bearing gears and almost all moving parts of the press are enclosed in oil-filled gear cases.

Tension governors on each reel automatically guard against slackness or too much tautness in the paper as it rolls into each unit. If the paper should rip, another automatic device immediately stops the unit to indicate the need for repairs.

These devices and many more make the press the most modern example of news printing machinery available today. Built after months of consultation with Walter Scott & Co., Plainfield, the press was tailor-made to meet Bergen Evening Record requirements.

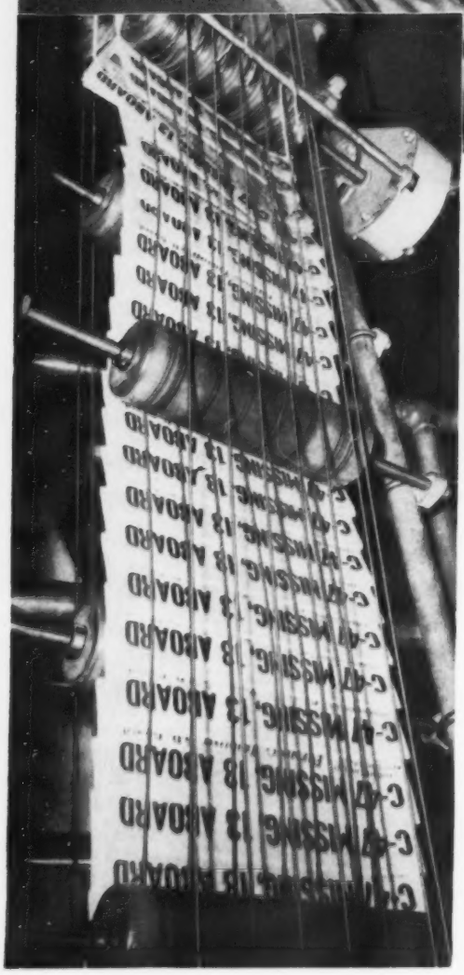
Modernizing . . . Expanding . . . Planning a new plant . . . Consult SCOTT on the fastest, most versatile newspaper press equipment ever developed. We invite your inquiries.

15-L-17

Buy with Confidence . . . Buy SCOTT

WALTER SCOTT & CO. INC.

PLAINFIELD, NEW JERSEY



The San Diego Union
EVENING TRIBUNE

PRINTED ON GOSS HEADLINERS FOR BILLION DOLLAR MARKET

In **"the most important corner (S.W.) in the U.S.A."** The San Diego Union and Evening Tribune now print (approx.) 167,000 copies daily and 142,000 Sunday on new Goss Headliner Presses (eight units, two folders, complete color facilities). Outstanding among the many **"plus values"** of these new presses is Goss Tension Plate Lock-up which helps to assure sharp, clean reproduction at higher speeds. It reduces web breaks, plate wear and replating . . . improves register and holds it during long runs . . . prolongs blanket life . . . promotes safety . . . saves form rollers . . . stops plate slap for smoother, quieter operation . . . makes it easier to match double-page spreads. Tension Plate Lock-up is another important reason why "America's Leading Newspapers Are Printed On Goss Presses."

THE GOSS PRINTING PRESS COMPANY
1535 S. PAULINA ST., CHICAGO 8, ILL.
Goss Printing Press Co. Ltd., Preston, England

it's **GOSS** *again*

New "Headliner" press installation runs 50 miles of newsprint in 20 minutes on TIMKEN® bearings

ON its initial run at the San Diego Union and Evening Tribune, this 8-unit Goss "Headliner" installation ran newsprint at the amazing average rate of two and one-half miles a minute.

Like all other "Headliners", this press has its plate and impression cylinders mounted on Timken® tapered roller bearings. Over the years, more than 6,000 Timken bearings have been used in "Headliners" and not one has failed or had to be replaced!

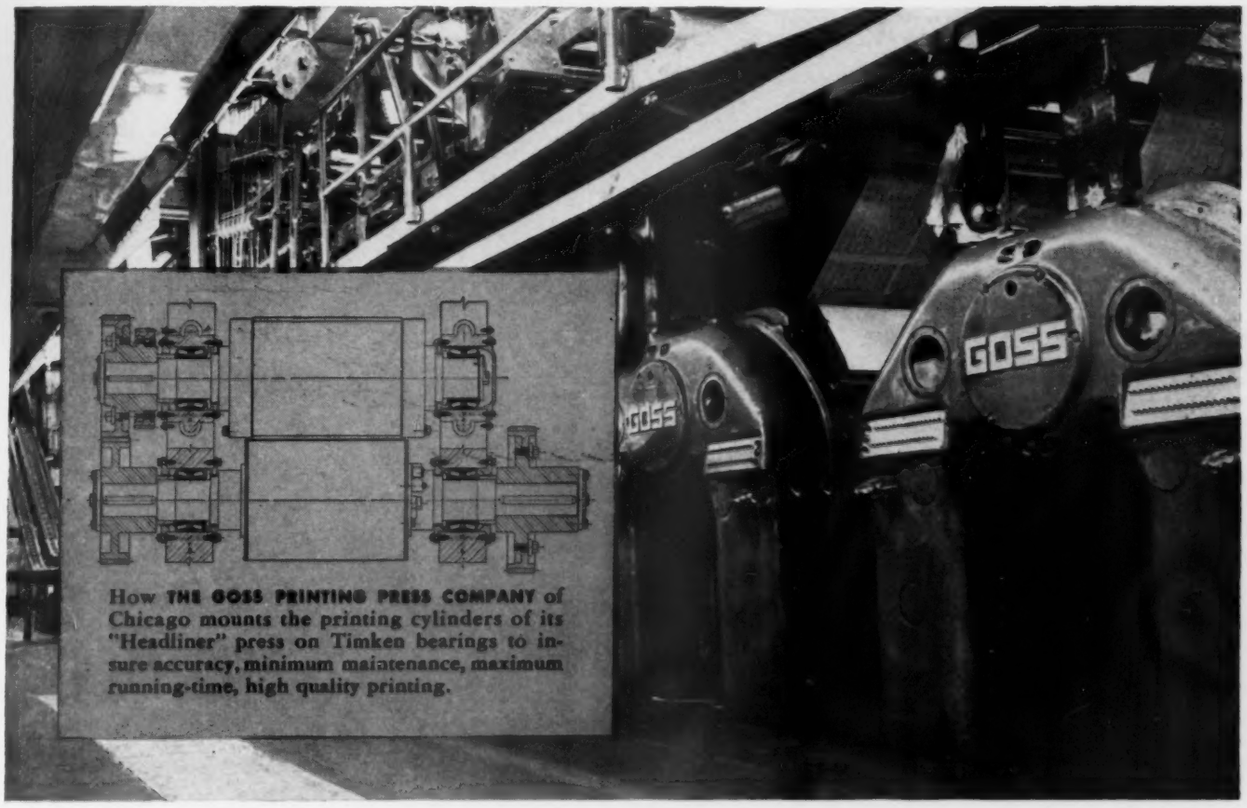
The tapered construction of Timken bearings enables them to absorb thrust and radial loads, keeping the cylinders in a fixed central rolling position to maintain printing precision. Quick and easy cylinder changes are made possible, too.

More issues roll per hour with Timken bearings. They cut down time-consuming delays for maintenance and lubrication, eliminate speed restrictions due to bearings.

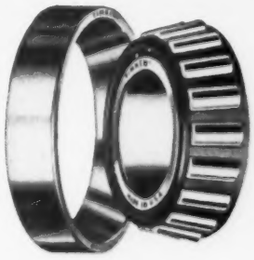
Because they have true rolling motion and an amazingly smooth surface finish, Timken bearings practically eliminate friction. Extra load-carrying capacity results from line contact between rollers and races.

No other bearing can give you all the advantages you get with Timken bearings. Wherever long-lasting precision is required, insist on bearings that are stamped with the trade-mark "Timken". The Timken Roller Bearing Company, Canton 6, Ohio. Canadian plant: St. Thomas, Ontario. Cable address: "TIMROSCO".

This symbol on a product means its bearings are the best.



How THE GOSS PRINTING PRESS COMPANY of Chicago mounts the printing cylinders of its "Headliner" press on Timken bearings to insure accuracy, minimum maintenance, maximum running-time, high quality printing.



TIMKEN

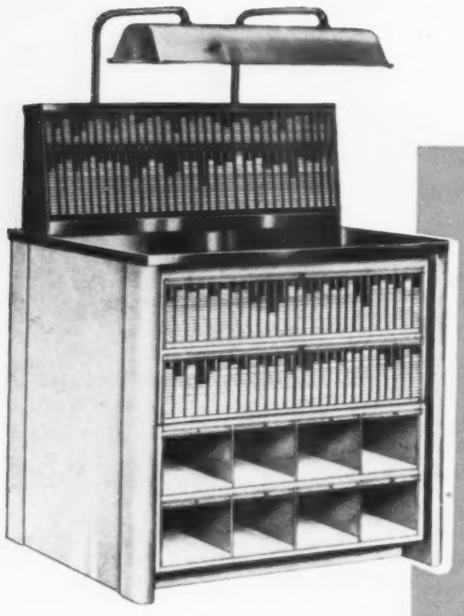
TRADE-MARK REG. U. S. PAT. OFF.

TAPERED ROLLER BEARINGS

MAGNIFYING GLASS INSPECTION OF EVERY ROLLER!

Every one of the over one billion Timken bearing rollers produced every year is inspected with powerful magnifying glasses to detect surface flaws. It's just one example of how the Timken Company insures uniform high quality.

NOT JUST A BALL ◯ NOT JUST A ROLLER ⬭ THE TIMKEN TAPERED ROLLER ⬭ BEARING TAKES RADIAL AND THRUST → LOADS OR ANY COMBINATION →



Hamilton Ad Assembly Cabinet
No. 4102C01

NEW...

a "custom made" ad assembly cabinet to meet today's production needs!

Hamilton presents a new and greatly improved line of ad-assembly cabinets, with storage units especially designed to meet today's production needs. These cabinets will accommodate full length strip and base material and have ample space for cut-to-measure material and galleys of ad composition. Interchangeable storage units permit you to tailor cabinets precisely to fit your own requirements. Find out now how these new cabinets can increase your compositor efficiency by 10% to 15% and save up to 30% in floor space.

Hamilton has a handy folder which completely describes this new line and the possibilities it offers you. For your free copy see your Hamilton Dealer or send the convenient coupon provided below.

Hamilton PEAK-PRODUCTION equipment

PRINTING EQUIPMENT DIVISION
Hamilton Manufacturing Company · Two Rivers, Wisconsin

Hamilton Manufacturing Company, Two Rivers, Wisconsin

_____Send your new Ad Assembly Cabinet folder

_____Have your representative call

Name_____

Firm_____

Address_____

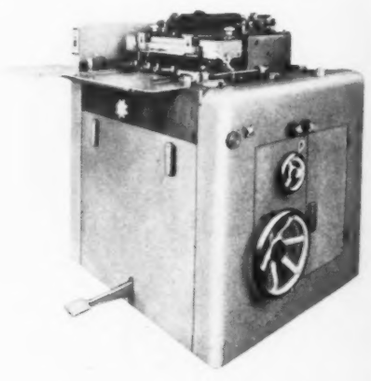
City_____ State_____

Equipment and Supplies

If you wish additional information concerning equipment, supplies and/or technical literature, please make your request to PRINTING EQUIPMENT Engineer, 1276 West Third St., Cleveland 13, Ohio.

Check Imprinting Press

AN improved press for imprinting and numbering checks and stubs three up from one type form or plate, has been reported by the Champlain Company. Designed for automatic or manual feeding, it will accommodate checks from $2\frac{3}{4}$ in. by $11\frac{1}{2}$ in. to $3\frac{1}{2}$ in.



The Champlain Company has announced a number of improvements in its Check Imprinting Press. The press was redesigned from the former Goat Check Imprinter.

by 14 in. including stub. Speed of the press is claimed to be 180 checks per min.

In operation, the paper moves and registers between impressions while the chase remains stationary. The re-designed press is equipped with an adjustment for controlling the position of the paper stops. One adjustment changes all stops from a $2\frac{3}{4}$ in. to a $3\frac{1}{2}$ in. check. Sponsor claims impression is controlled to thousandths of an inch by means of a handwheel. Vernier controls are provided to compensate for errors in positioning the printing on the original sheet.

The former Goat press also has vernier adjustment of all register stops to compensate for longitudinal variation of type in the chase. Another feature is the locking of stops after setting for permanent registration. Paper side guides have been

Continued on Page 12

Smoothest, Most Efficient Production at Present Day High Speeds

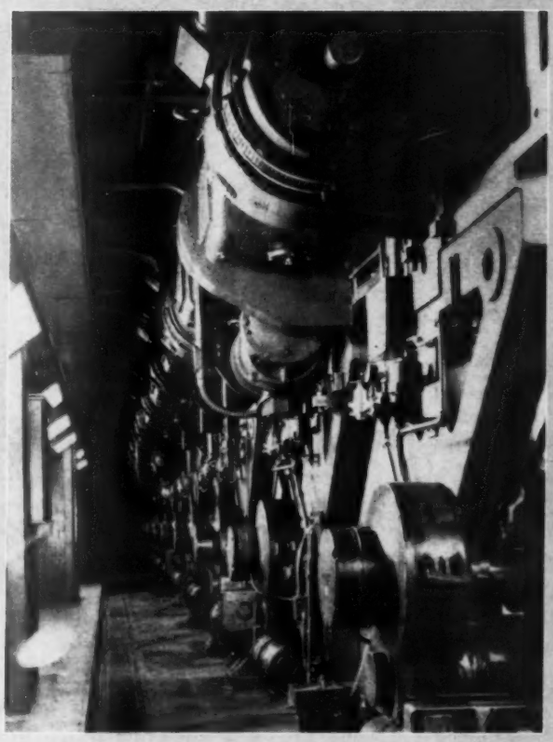
Cline-Westinghouse

Drive Equipment

NEWSPAPER PRESSES of today must roll at tremendous speeds for the papers must get out . . . and speed is an important factor in keeping production costs in line. *At any speed,* Cline-Westinghouse Drive Equipment provides that smooth, dependable and efficient operation which insures lower costs.

Furthermore . . . with Cline A. C. Unit Drives one can be sure of *quick, smooth acceleration, deceleration and fast braking* that reduces web breaks and down time.

There are Cline-Westinghouse *A. C. Unit Drives* for Metropolitan newspaper presses and *modern 2-motor drives* for other presses . . . in fact everything electrical for the printing industry.



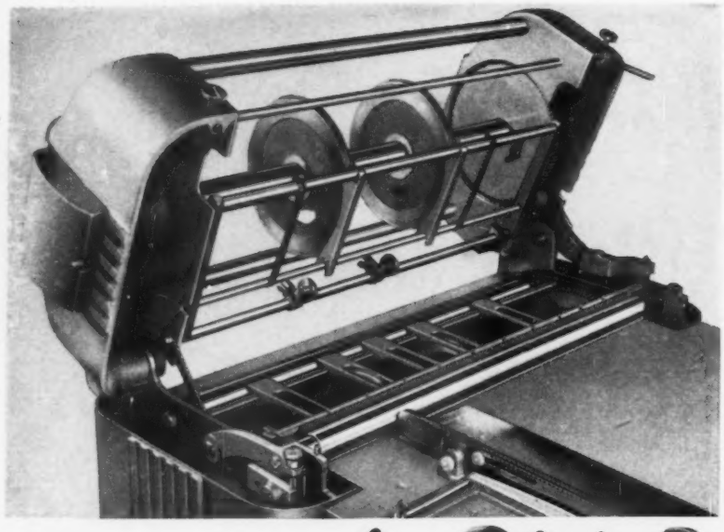
BOSS OF THE PRESS

Cline

ELECTRIC MANUFACTURING COMPANY

3405 WEST 47TH STREET, CHICAGO 32

San Francisco 8, California • New York 17, N. Y.



THE *Rosback*

PONY *Vari-Speed* ROTARY

PERFORATOR

"*Eats Up*" Perforating Jobs

- **2-10 Sheets per lift**
- **Up to 30" x 30" Stock**
- **Continuous Perforating**
- **Strike (or Skip) Perforating**
- **Variable Speed Drive**

For little more than the price of a vertical power perforator of similar sheet-size capacity, you can put the Rosback Pony *Vari-Speed* Rotary Perforator to work in placing your perforating on a modern, fast, low-cost production basis.

The Rosback Pony Perforator does round hole perforating—the type of perforating most satisfactory to most customers, as proved over the years. You can perforate two to ten sheets at a time—cutting costs to half or less as compared with perforating on any vertical or slot rotary perforator.

Operation of the machine is quickly learned because of the *Variable-Speed Drive*. A convenient handle on the front readily selects the desired speed, from 24 to 48 r.p.m. Any operator can feed the Pony *Vari-Speed* Rotary —even on strike work—and increase her speed as she gains proficiency. Experienced operators can obtain full production right at the start.

The fundamental principle of all Rosback Round Hole Rotary Perforators —proved by more than 30 years' of continuous use—is incorporated in the Pony *Vari-Speed*. The refinements and conveniences in the operation of this machine make it the leader in modern perforating equipment. See your nearest Rosback dealer, or write us for complete descriptive folder.

F. P. ROSBACK COMPANY • *Benton Harbor, Mich.*

LARGEST PERFORATOR FACTORY IN THE WORLD

Equipment & Supplies

(Continued from Page 10)

extended through the press to the fly-leaf delivery.

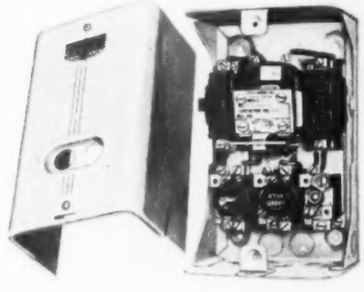
Other improvements have been made in the inking rollers, provision for quick type changes, accessible speed adjustment control and a magnetic rather than mechanical motor brake. Specifications are: Floor space, 60 in. by 46¼ in.; shipping weight, approx. 2000 lbs. A bulletin on the Champlain Check Imprinter is available. This and other information may be obtained by mentioning PEE No. 440 in your request.

Monotype Specimen Series

LANSTON Monotype Machine Co. has issued a specimen sheet showing Monotype Valiant in various combinations with other type faces which is the first of a series showing Monotype faces at work. Printed in blue and brown on Basingwerk Parchment, the specimen showing was designed by John Anderson. Examples included in the specimen review show the use of Valiant with different sizes and styles of Janson, Fournier and Bulmer. The Valiant series is available in sizes from 14 pt. to 72 pt. Copies of the specimen sheet may be obtained by mentioning PEE No. 526 when writing to *Printing Equipment Engineer*.

Magnetic Starters, Contactors and Relays

CUTLER-HAMMER, Inc., has announced a line of magnetic starters, contactors and relays incorporating a five unit construction. The five independent parts of the unit consist of two



The Cutler-Hammer magnetic starter with wrap-around cover removed. Parts can be removed from the front without disturbing other parts, states sponsor.

contact blocks, magnet coil, armature and a 3-coil or 2-coil overload relay mounted on a steel panel. A wrap-around cover can be pulled off to expose the front and both sides of the unit. Each

(Continued on Page 15)

ATF Little Giant 6 "pans" gold

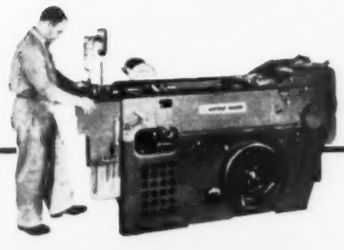
by handling 92% of all your work in its size range

You've got an honest-to-goodness gold-digger for profits when you have an ATF Little Giant 6 ready to go to work in your shop.

Here's the 12x18 automatic job cylinder press that soon pays for itself because it can handle *92% of all your work* within its size range. Start it humming on any job from 3¼x5½, 4 ply card to onion skin, at cruising speeds from 2,500 to 5,000 impressions per hour, and watch your margin of profits jump. It will pay off in your shop just as well for short runs as long ones, too. Not only that, but you can go out and *bid on new business* which your old job presses can't handle. On an ATF Little Giant 6 you can turn out beautiful four-color process work just as easily as fine black and white.

This press is so easy to operate, so easy to maintain, that you'll find savings in shop operation alone are worth the investment.

Buy the press that pays off fastest! Ask your ATF representative about all the gold-digging features of an ATF Little Giant 6. AMERICAN TYPE FOUNDERS, *a subsidiary of Daystrom, Inc.*, 200 Elmora Avenue, Elizabeth, New Jersey.



Type faces shown are: Contact Bold Condensed and Italic, and Garamond Bold

ATF

Better, More Profitable Printing from the Widest Line of Processes

GRAVURE... LETTERPRESS... OFFSET

His advertisers love it . . . so do his readers!

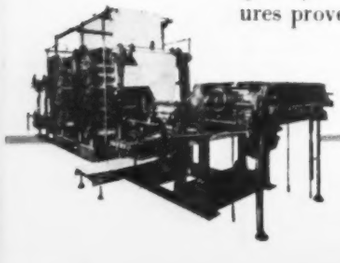
Here's how one publisher cut production time by more than two-thirds, increased paid advertising space, cut composing room time and costs, improved quality for an exclusive readership.

Lloyd Hollister, Inc., publisher of four weekly newspapers with unusual magazine format and a special audience on Chicago's North Shore, accomplished all this by installing an ATF-Webendorfer web-fed offset press designed for the job.

His advertisers are happy with the better, more lifelike reproduction of their ads, with the greater latitude in layout, and with increased sales. Consequently, they're buying more space. Circulation figures prove his readers are happy. The publisher is, too, because of quality, quick pay-out on equipment.

This ATF-Webendorfer was specially engineered to handle a 23½" cutoff and a 38" web width at a speed of 15,000 sections per hour of 16-pages in one color, or 8-pages in two. However, ATF has web-fed presses to cover every type of work—publication, form, web color and specialty web presses. An ATF-Webendorfer also can be made to fold, number, perforate, sheet, collate, with simple attachments.

Information on Lloyd Hollister's Webendorfer press application available from ATF. Ask how you, too, can cut costs, and increase your profits. AMERICAN TYPE FOUNDERS, Webendorfer Division, 2 South Street, Mount Vernon, New York.



Type faces shown are: Lydian, Bodoni Book, Spartan.

ATF

Better, More Profitable Printing From The Widest Line Of Processes

GRAVURE . . . LETTERPRESS . . . OFFSET

Equipment & Supplies

(Continued from Page 12)

part can be removed from the front without disturbing another part, states sponsor.

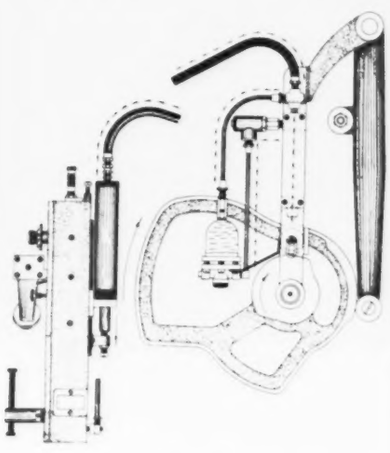
The Cutler-Hammer line features a 3-coil, adjustable overload relay permitting four ratings from each coil by changing its position. Sponsor claims it provides protection within 3 per cent of full load motor rating. It is also designed for protection against single phasing where unbalanced or unstable line conditions may occur.

Further details may be obtained by mentioning PEE No. 430 in your request.

Model F Automatic Quadder

AN improved model of the Star Automatic Quadding Attachment for quadding and centering type matter on linecasting machine slugs, has been announced by Linotype Parts Co. Controlled movement of the vise jaws is claimed for the Model F Star Quadder which is actuated by a separate cam and a hydraulic system.

Sponsor states the device is independent of the linecasting machine to which it is attached in the sense that the wear of the machine does not affect the operation of the Quadder. The vise jaws remain locked firmly during the casting operation.



In the accompanying diagram, it is shown how the hydraulic cam is attached to the left end of the main cam shaft, adjacent to the first elevator cam. This small cam controls the action of the hydraulic system through the master cylinder, slave cylinder and relief valve. In turn, the pressure of the hydraulic system actuates the Quadder mechanism which is still essentially the same as previous Star Quadder models. The brake mechanism of the earlier models, however, has been eliminated.

The Model F attachment was shown for the first time at the recent Great Lakes Mechanical Conference held in

(Continued on Page 16)

"THAT'S A FINE-LOOKING STATEMENT"

(and he's sure to read it from Buckeye Cover to Buckeye Cover)

LEADING corporation executives know that it pays to make the annual report more than a listing of assets and liabilities.

Today, the advertising manager or agency and printer join forces with the comptroller in preparing a report that serves as a powerful vehicle for cementing the goodwill of employees, stockholders, customers and suppliers.

The cover of the report booklet or brochure is of primary importance in making a favorable impression. That's why, in more and more of these publications, the cover is Buckeye—the famous cover stock, made of rags and finest purified woodpulp, whose color and texture and *feel* proclaim its quality.

THE BECKETT PAPER COMPANY

BUCKEYE - BECKETT PAPERS

MAKERS OF GOOD PAPER
IN HAMILTON OHIO, SINCE 1848

Equipment & Supplies

(Continued from Page 15)

Columbus, O. Further information may be obtained from referring to PEE No. 433 in your inquiry.

Albumin Plate Life Lengthener

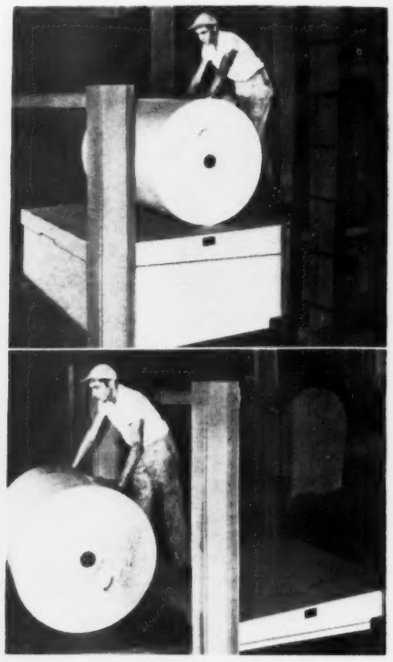
IT IS claimed by Harry H. Rogers Co., Inc., that up to 75,000 impressions may be obtained from a single albumin offset plate by applying Rogersol Albumin Plate Life solution. The A.P.L. solution is said to build up the non-image area of the plate to the same level as the image and is described as a tough, hard layer which protects the image against wear.

In using the solution, the plate is made by the conventional method. Before gumming, a coating of A.P.L. is applied over the entire plate. The plate is then re-exposed to the arc lamp for ¾ of the original exposure time after which it is rinsed. When dry, the plate is gummed ready for the press. Sponsor states a 17 in. by 22 in. plate uses 1 oz. of A.P.L.

Other features claimed for the solution by the Rogers company are better printing quality, improves ink distribution, provides better water control and helps prevent scumming. Further claims are that A.P.L. will not crack, chip or peel, and processed plates can be stored under Asphaltum for re-use. Complete details are available by mentioning PEE No. 524 in your request to *Printing Equipment Engineer*.

Paper Roll Handler

HAMILTON Tool Co. has reported a mechanism designed for handling paper rolls in a printing plant known as the Portelvator. Originally designed for wrapping the paper rolls for storage or shipment in a paper mill, its operation is shown in the accompanying illustrations.



The Hamilton Portelvator for handling paper rolls from one working surface to another. It is shown here in use in a paper mill where it was originally designed for handling paper rolls during the wrapping operation for shipment or storage.

Rolls of paper are delivered from the paper machines onto the two rollers shown at the near edge of the platform. Here is where the wrapping paper is applied around the rolls' circumference. The rolls are then pushed onto the Portelvator and lowered to the floor. An automatic tilt top functions to discharge the roll to a second work area where end wrappers are applied. A fork truck removes the wrapped roll to storage or shipment.

Table area of the Portelvator measures 60 in. by 72 in. The lift can be moved from 5½ in. to 26 in. above floor level. Load capacity is 6000 lbs. It is push-button operated, enclosed on all four sides, and is equipped with a cam operated tilt top with a 3 in. movement. Electrical equipment includes a 1 h.p. operating motor, limit switch and re-

(Continued on Page 20)

Now FLINTSET

MAIL YOUR ORDER NOW

AVAILABLE in 14 Attractive Sparkling Colors

★ QUICK SETTING
Can be backed up within one hour

★ QUICK DRYING
Delivers rush jobs on time

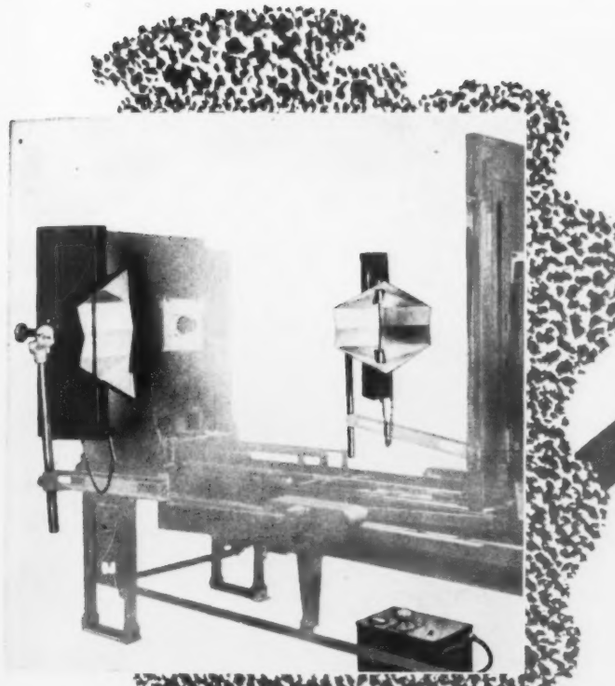
★ GLOSS FINISH
With perfect press performance

★ NON-SCRATCH
Resists rough handling

★ CLEAN, SHARP RESULTS
Attract customers to you

Flint Inks

Manufactured exclusively by
Howard Flint Ink Co.
Printing and Lithographic Inks
HOUSTON • ATLANTA • DETROIT • CHICAGO • DENVER
CLEVELAND • LOS ANGELES • NEW ORLEANS • INDIANAPOLIS



Enjoy All the Money-Saving Advantages of the New, Low-Cost

GRAFARC CHALLENGER

Fully Automatic High Intensity

CAMERA ARC LAMP

This vertical trim lamp burns at 75 amperes and 23 volts at the arc. The arc current controls the carbon feed so that the illumination and color temperature are constant. Uniform illumination is provided on work of any size, with extreme steadiness of light volume. The Strong Grafarc time-proven method of compensation for line voltage variations has been incorporated. Light in weight, the Challenger is readily mounted on the lamp support arms of any camera. Adapters are available to fit all makes of cameras. The Challenger can also be used as a printing lamp.

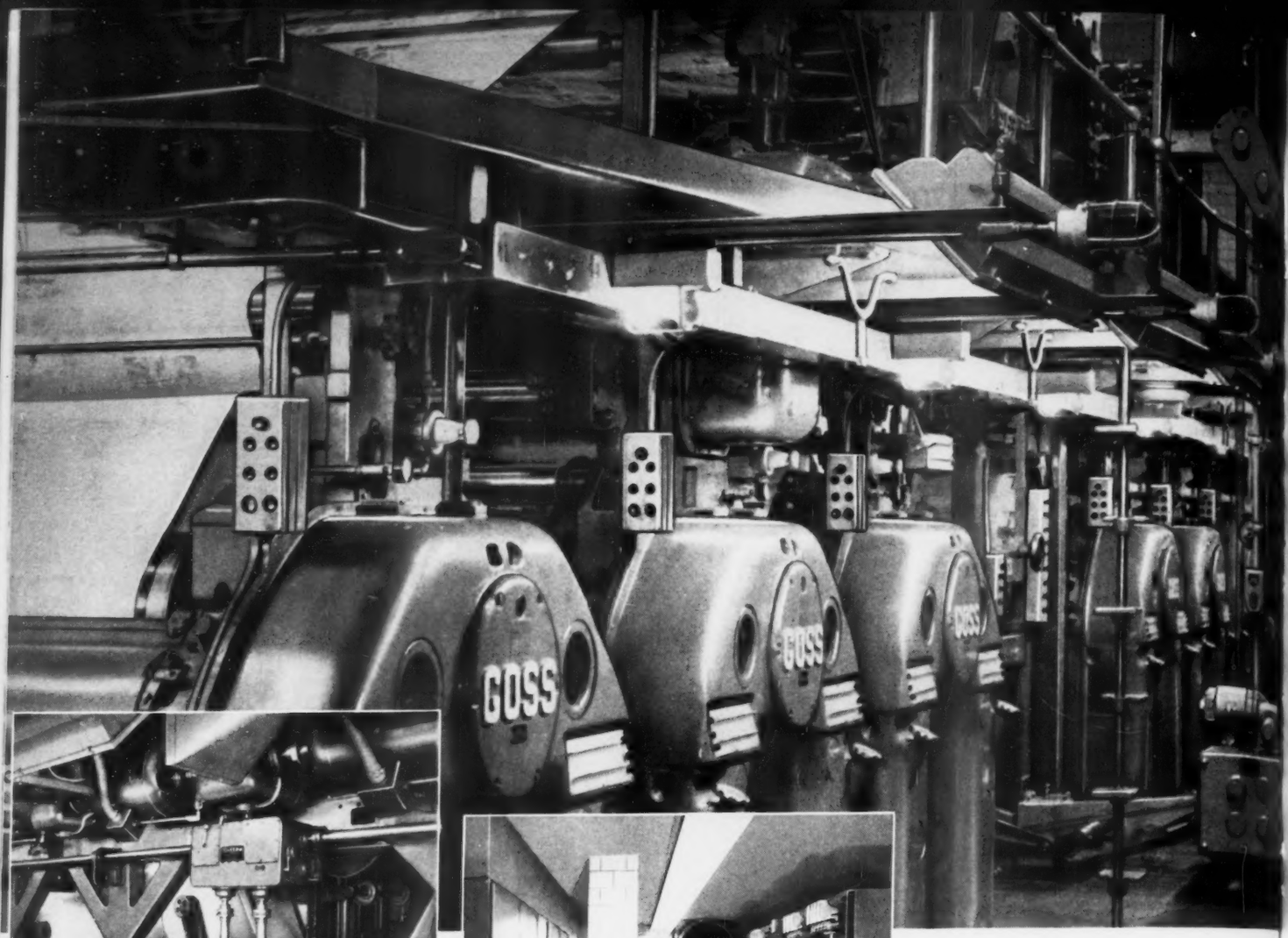
There are Strong Grafarc lamps designed for all photo-mechanical processes—printing lamps, camera lamps, photo-composing lamps and overhead printing lamps.

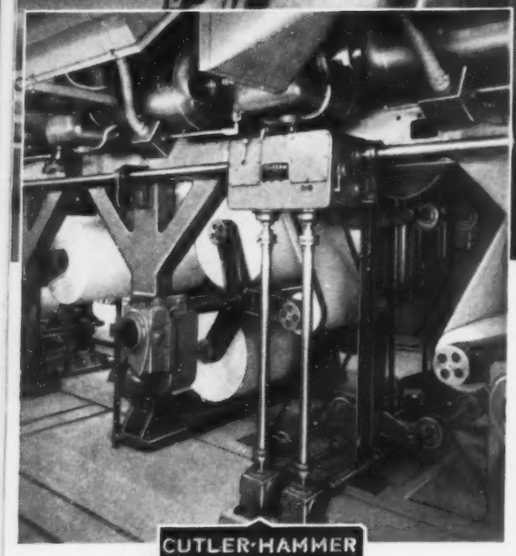
THE STRONG ELECTRIC CORPORATION
307 CITY PARK AVENUE • TOLEDO 2, OHIO

Please send free literature and prices on the new Strong Challenger Camera Arc Lamp.

NAME _____
FIRM _____
STREET _____
CITY & STATE _____
NAME SUPPLIER _____

Send coupon today for free literature and prices.



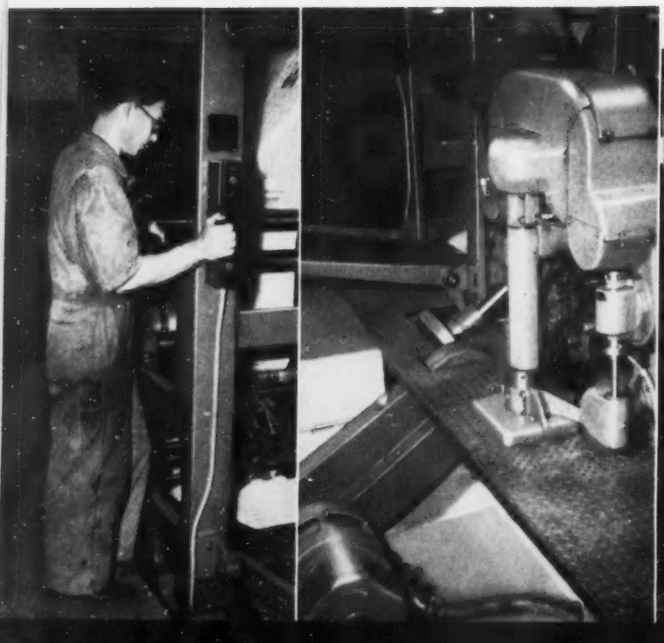


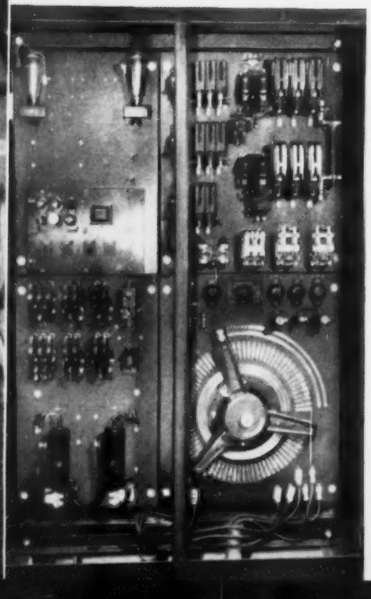
Cutler-Hammer Control for Unit Press Drive used on Goss Headliner Press in plant of

CANTON, OHIO, REPOSITORY

This $600,000 seven unit installation has printing capacity of 45,000 copies of 56 pages per hour, an average delivery of 42,000 per hour. Space for expansion is provided at both ends. Color equipment is included.

CUTLER-HAMMER
MOTOR CONTROL
C-H





Cutler-Hammer Electronic Control for Single Motor Drive on Goss Tubular Press at

GOSHEN, IND., NEWS DEMOCRAT

One of a series of highly successful Cutler-Hammer Electronic Single Motor Drives on tubular type presses. Simple, dependable, highly efficient.

THE CUTLER-HAMMER CONTROL FOR UNIT DRIVE IS THE RIGHT CONTROL

Simple
Dependable
Flexible

Like all controls in the extensive Cutler-Hammer Line of *right* press control equipment, this company's control for unit press drive is marked by the utmost simplicity. Such simplicity in gaining maximum continuous press production actually results in greater dependability and economy of operation, and above all *true* flexibility. This control is easy to understand as well . . . an advantage appreciated by the installing contractor and by the plant electrician who has to maintain electrical operation.

Among its features, each press unit has its own motor—*and each motor has its own control.* As a result, units are easily cut in and cut out. And troubles such as changing load adjusting resistor switches, equalizing the load among motors, circulating currents and excessive current peaks are a thing of the past.

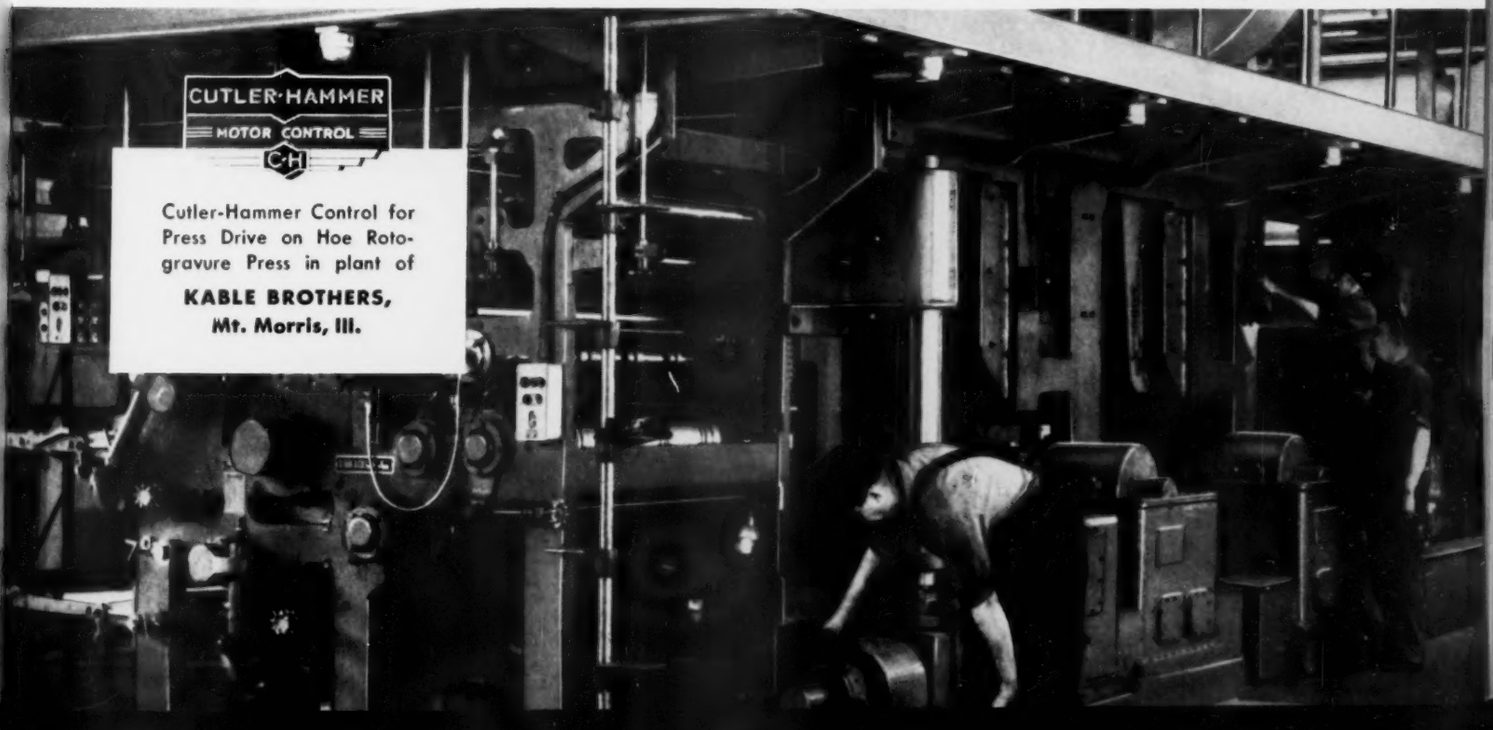
Here also are used tried and true standard industrial control components familiar to the average electrician and requiring no specialists' expert knowledge. Furthermore, all control equipment can be mounted away from the press and installation is relatively simple and economical. Simple and sturdy wound rotor a.c. motors are used, easily installed, aligned and serviced. These motors have ample overload capacity for operating the press at full speed should one motor fail . . . also for driving additional color decks. Their smooth automatic acceleration is provided by the C-H cam drum accelerating device with 72 speed points. The provision of a gearhead motor for inching and threading ends the need to energize the driving motors for these operations. Dynamic braking eliminates the use of a special motor with built-in brakes.

For dependability, flexibility, economy, and for maximum production, specify Cutler-Hammer Control for Unit Press Drives. CUTLER-HAMMER, Inc., 1460 St. Paul Ave., Milwaukee 1, Wis.

CUTLER-HAMMER
WEB BREAK DETECTORS
Stop press instantly if web breaks. Web can be rethreaded without latching detectors. Easy to mount.

CUTLER-HAMMER
MOTOR CONTROL
C-H

CUTLER-HAMMER
WEB SEVERING DEVICE
A Cutler-Hammer "original" that has resulted in greater total savings than any other single accessory. It instantly slashes broken web close to impression and guards against destructive wrap-arounds and costly delays—resets automatically.



TRIPLE THREAT

By

NEW ENGLAND

The Oldest Name in Press Blankets

ONE: Our RED RUBBER BLANKETS are now the finest ever made for a press—the nearest thing to being oil-proof you can put on a cylinder.

TWO: REGAL MONOCORKS need no introduction. They have built a name for themselves that is the complete envy of the trade.

THREE: When you put an IDEAL tympan over any combination of these blankets you can be sure of a packing that can not be beat.

YOU BE THE JUDGE!

NEW ENGLAND FIBRE BLANKET COMPANY

164 FREMONT STREET

WORCESTER MASSACHUSETTS

BRANCHES: New York—Chicago—San Francisco—Tulsa

Even if you were this THRIFTY...

You'd be happy with BEVERIDGE MATS

• Are you looking for uniform, high quality mats that can be depended upon to give accurate high shrinkage and clean, sharp reproduction with minimum make-overs? Then try Beveridge High Shrinkage Mats—they satisfy the most thrifty stereotyper both from quality and economy standpoints.

Let us send you an order—write today!

Beveridge Dry Mats

New Products Division

THE BEVERIDGE PAPER CO.

Indianapolis 4, Indiana

Equipment & Supplies

(Continued from Page 16)

versing magnetic starter. For additional information, please mention PEE No. 521 in your request.

Doyle Jet Pressure Drier for Web Presses

THE Doyle Sealed Heat Jet Pressure Drier is a late development of the J. E. Doyle Co. While designed primarily for drying ink on the paper web as it comes from an aniline press, the Jet Drier can be readily adapted to other types of rotary web presses.

The equipment is positioned in line with the last unit in a color press and before the web enters a die-cutting or rewind unit. The web passes through the drying chamber housing freely, being propelled by the end fabricating unit.

The drier oven is provided with three compartments. One is for superheating air under pressure through electric heating elements. The second compartment is where the hot air is forcibly injected against the moving paper web. The third compartment is for exhausting any fumes caused by the drying action of the ink. An auxiliary fresh air blast is provided for cooling the web as it comes from the oven.

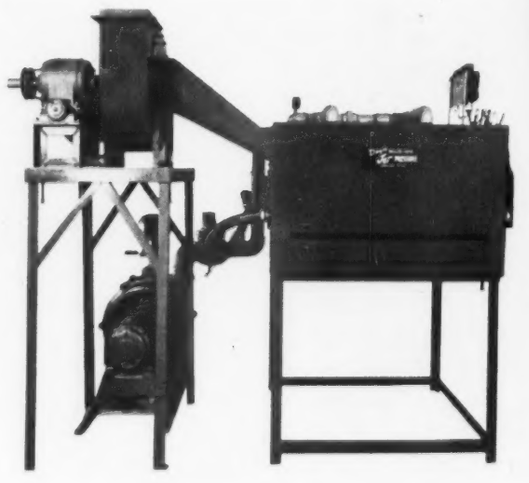
The drier unit consists of a double wall stainless steel heating chamber with 2 in. glass wool insulation to withstand temperature extremes up to 900 deg. F. without damage.

The sheet metal outer housing is constructed to provide means for removing top, bottom and side panels to permit individual removal of the heating chamber, air jet nozzles and the heating elements respectively.

The heat source consists of high temperature 35 w. per sq. in. electric heating elements. Elements are sheathed with a nickel chromium tube to make the resistance wire spark proof and to insure that they will not be damaged should a paper jam occur in the drying chamber. Electric connections to heating elements conform to standard oven construction in which volatile gases are present. The elements are accessible and can be changed quickly.

High velocity heated air is fed evenly over the web from multiple jet nozzles positioned at spaced intervals in the air manifold plate. The air is directed over

(*Continued on Page 24*)



View of complete unit of the Doyle Sealed Heat Jet Pressure Drier. The slot through which the web enters is shown in the oven at right. High velocity air compression mechanism shown at lower left. Exhaust manifold with adjustable speed fan for removal of air and gases from oven chamber shown at upper left. Equipment is supplied with suitable instruments for efficient and automatic operation. When press is stopped, cool air is automatically fed over the web through the oven aperture. While built primarily for aniline web press operation, the Drier can be applied to any type of letterpress rotary web press.

America's finest magazines are produced on HOE MAGAZINE PRESSES

BUILDS THE BEST

Designed and built to meet individual printing requirements of top-quality weekly and monthly magazines, HOE MAGAZINE PRESSES assure fine impression, sharp reproduction and precision registration of color — with high net production and low maintenance.

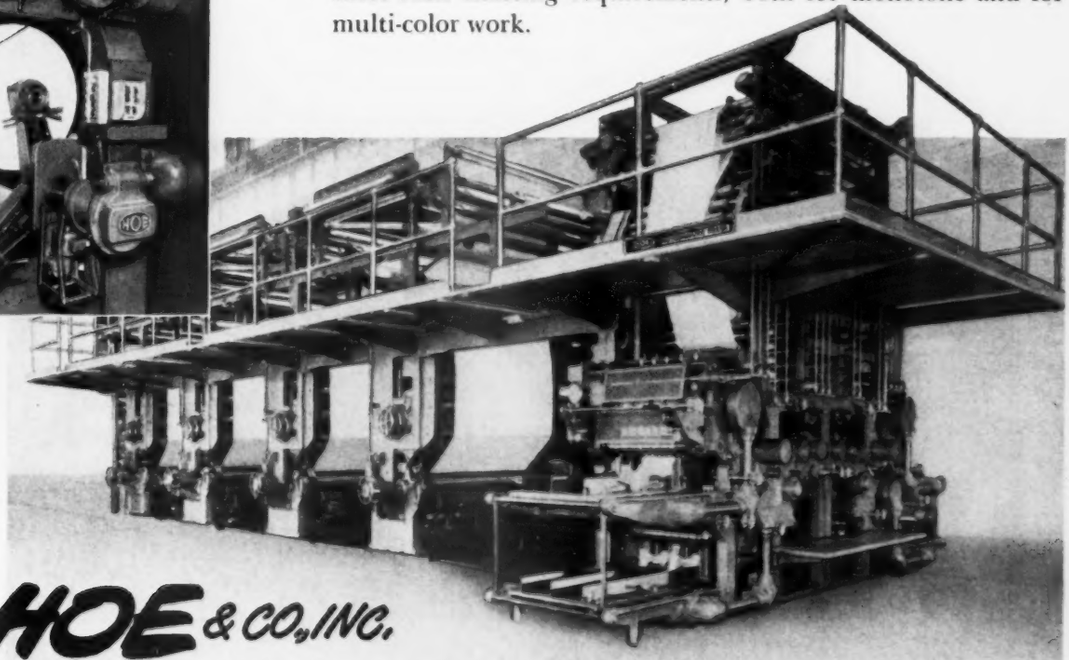
For uninterrupted production

The most widely used equipment of its kind, HOE FULL-SPEED WEB-SPLICING MECHANISMS help speed production on Hoe Magazine, Rotogravure and Newspaper Presses, and are also installed on many presses of other makes.

In presses so equipped — with Hoe three-arm reels, running belt automatic tensions and full-speed web-splicing mechanisms — paper roll changes are made without any slowdown in press speed and paper wastage is minimized.

Big mail-order catalogues are printed on HOE ROTOGRAVURE PRESSES

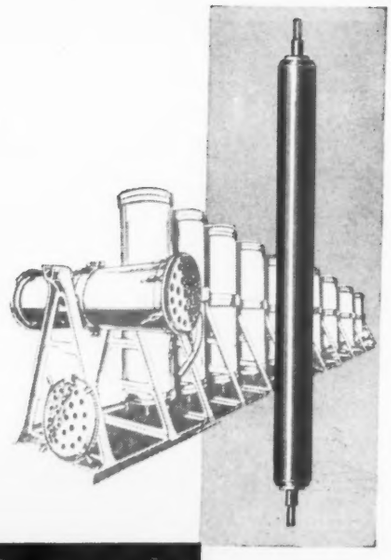
Where huge editions must be produced at high speeds, without sacrifice of quality — mail-order catalogues, newspaper comics, supplements and magazine sections—HOE ROTOGRAVURE PRESSES meet such exacting requirements, both for monotone and for multi-color work.



R. HOE & CO., INC.

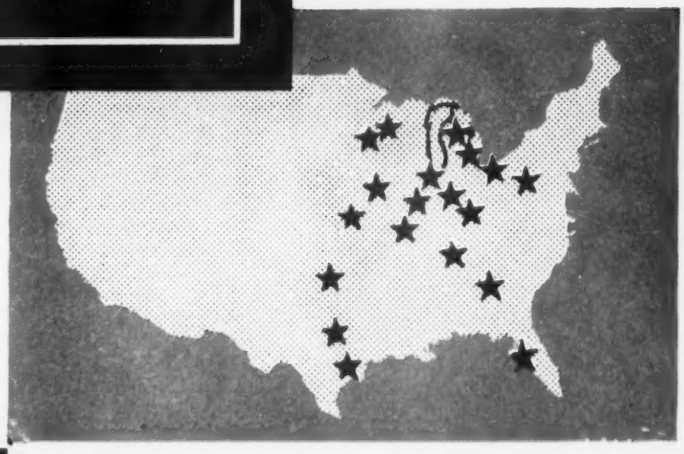
910 East 138th Street • New York 54, N. Y. BRANCHES: BOSTON • CHICAGO • SAN FRANCISCO • BIRMINGHAM • PORTLAND, ORE.

there is no better proof of ability
than our years of successful
service to the
printing industry . . .



SAM'L BINGHAM'S SON MFG. CO.
MANUFACTURERS OF
PRINTERS' ROLLERS
LITHO-OFFSET ROLLERS

Makers of
the World's Best
Printing Rollers



19 modern factories are
conveniently located
throughout the United States
to give you fast, efficient
service whenever you need it.

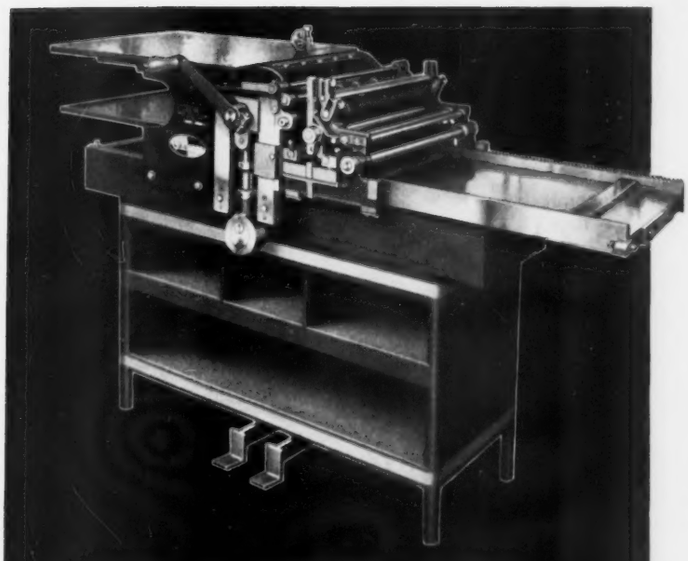
WE ARE NOW MAKING
COMPOSITION ROLLERS FOR
WINTER
USE
SHIP YOUR OLD ROLLERS TO THE
FACTORY MOST CONVENIENT TO YOU

Chicago

Atlanta	Kansas City
Cincinnati	Minneapolis
Cleveland	Nashville
Dallas	Oklahoma City
Des Moines	Pittsburgh
Detroit	St. Louis
Houston	St. Paul
Indianapolis	Springfield, O.
Kalamazoo	Tampa, Fla.

MAKERS OF RUBBER • NON-MELTABLE • FABRIC-COVERED • ROTOGRAVURE • OFFSET • COMPOSITION • VARNISH-LACQUER • GRAINING ROLLERS

if it's PROOF you're after . .



DESIGN AND OPERATING FEATURES

- Two sizes to handle anything up to 14½ x 23½", or 19½ x 23½".
- Cylinder grippers and micrometer side guide to control feeding and positioning of sheet.
- Foot trip prevents offset on cylinder packing during return stroke.
- Grippers may be opened at any position of cylinder.
- All models equipped with feed board, delivery board and zinc galley plate.

Challenge
TRADE-MARK ®

you'll get sharp accurate impressions with Challenge® series K PROOF PRESSES

Take a close look at a Challenge and you'll see why its "cylinder press" operation offers so many advantages. This proven principle of the reciprocating bed riding on anti-friction rollers assures sharp, accurate impressions on proofing jobs of every kind, including register proofs. There is a series of Challenge Proof Presses to meet your shop requirements. Send for free catalog showing the complete Challenge line.

THE CHALLENGE MACHINERY COMPANY
Office, Factories and Show Room:
GRAND HAVEN, MICH.
Over 50 Years in Service of the Graphic Arts
DEALERS IN ALL PRINCIPAL CITIES

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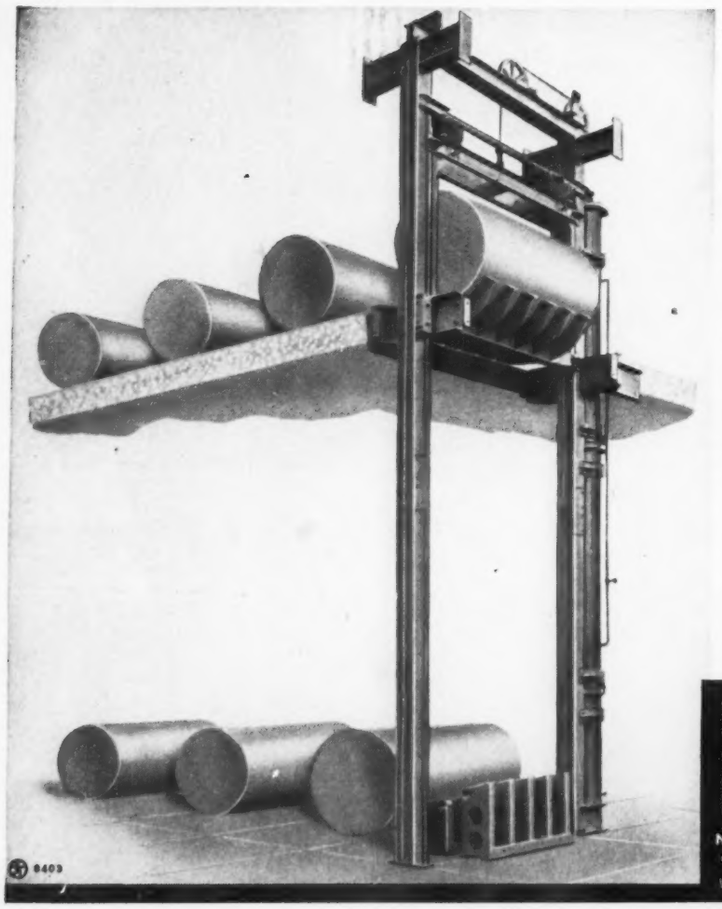

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WHEN YOU THINK OF MATERIALS HANDLING THINK OF GIFFORD WOOD

Equipment & Supplies

(Continued from Page 20)

and past the heating units and through jet nozzles onto the web.

The compressed air is provided by a motor-blower with adjustable air volume control and an air pressure gauge.

The air feed lines are alternately opened and closed by automatically actuated solenoid valves in each branch line. When the paper web is moving the air is fed over the web through the jets in the oven chamber. Immediately the web stops the solenoid valves are actuated and cool air is passed over the web through the oven aperture.

An exhaust manifold removes air and gases from the oven through a fan and adjustable motor drive. The exhaust is rapid but not of sufficient velocity to cause chilling of the chamber.

Optional equipment has been provided for use with moisture-set inks and for controlling moisture on certain applications.

The Doyle Jet Pressure Drier has been made in the following web width sizes: 34 in., 42 in. and 56 in. Manufacturer states the equipment is applicable to presses operating at up to approx. 800 web ft. per min. Please refer to PEE No. 529 when writing for further information.

Newspaper Color Unit

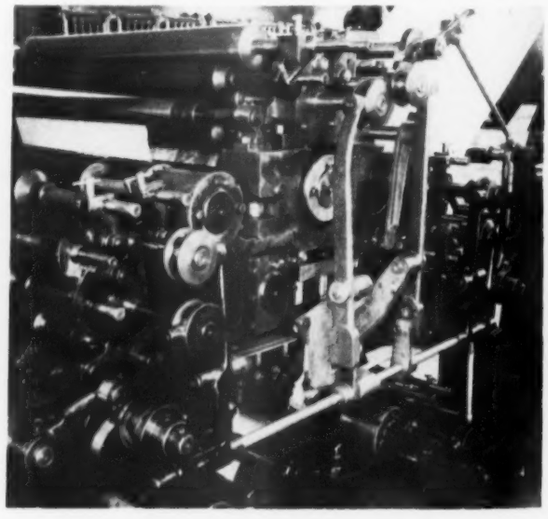
A COLOR printing unit designed for installation on standard Duplex Tubular presses has been reported by its inventor, G. Leslie Shehorn. The unit consists of an auxiliary ink fountain and printing assembly which can be connected when color is being used on a regular edition of the newspaper or disconnected when not in use. It was described by the inventor at the recent Great Lakes Newspaper Mechanical Conference in Columbus, O.

According to Shehorn, the unit can be coupled in approx. 4 min. and ink can be changed in the fountain in approx. 7½ min. The color plates are independent of the other units of the press and the design permits color pages to run without decreasing the number of black pages on the press.

The color unit is equipped with standard size rubber rollers. The plate cylinder and gears are of standard size. The unit uses the same impression cylinder as one of the black printing units.

Distribution of ink is maintained by

(Continued on Page 29)



The Shehorn color unit installed on a standard Duplex Tubular newspaper press. Color plates for the unit are independent of the other press units permitting color pages to be run without decreasing the number of black pages on the press. The unit can be disconnected when not in use. It was invented by G. Leslie Shehorn.

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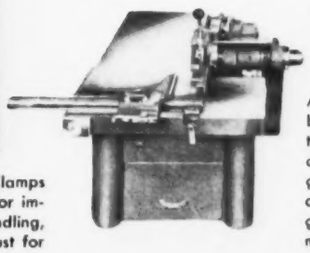

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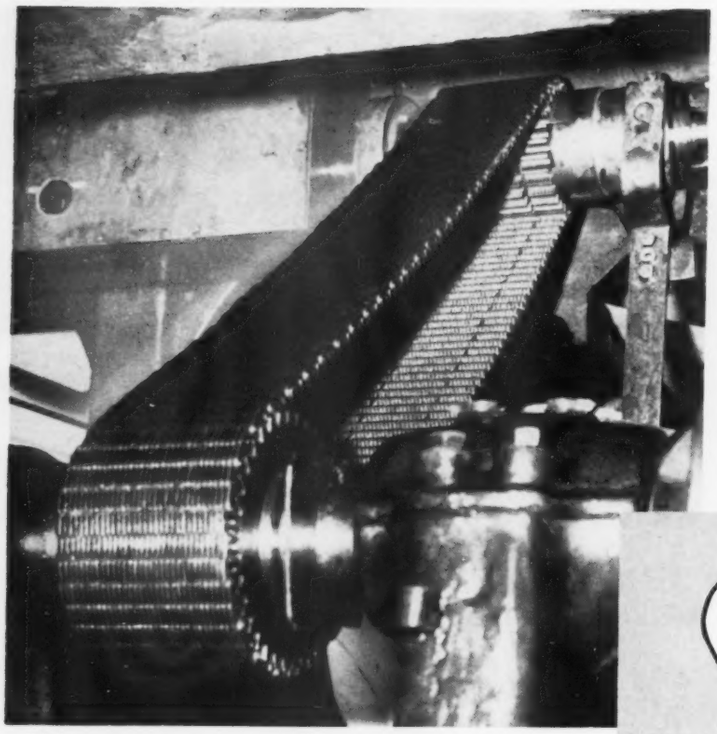
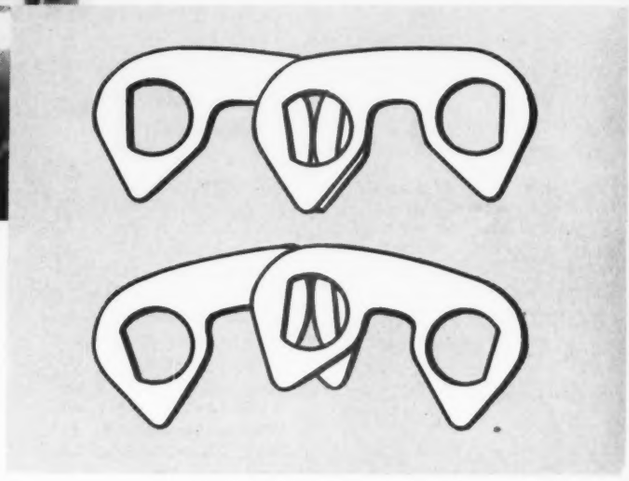


One of six Ramsey Chain Drives on the presses of a large New York City newspaper, successfully meeting daily peak demands in speed and continuous operation.

RAMSEY SILENT CHAIN DRIVE



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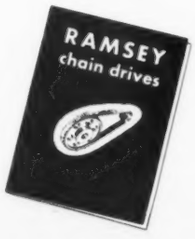
It will pay you to investigate Ramsey Drives. Send for the bulletin "Ramsey Chain Drives in the Printing Industry." It's free.



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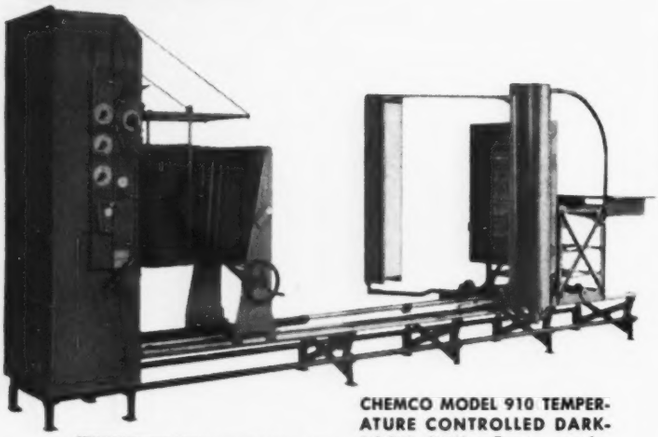

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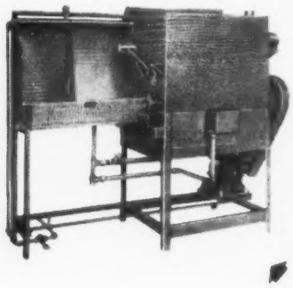

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Equipment & Supplies

(Continued from Page 24)

jogging the vibrating steel rollers to smooth out the flow of ink from the fountain. This jogging is performed by cams and levers working from existing black ink units.

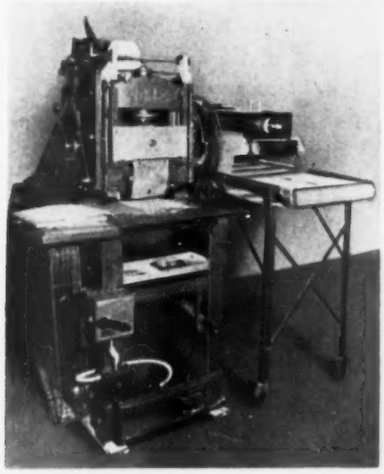
Driving gears for the color unit are meshed into the present gears of the press. Shehorn claimed the unit provides for side register control while the press is in operation. It is also designed for headrule register.

On 16 and 24 page presses, color can be run on front and back pages, or on Page 3 and the third page from the back. This can be accomplished, said Shehorn, without loss of page capacity of the black printing units.

Further information may be obtained by mentioning PEE No. 431 in your request.

Vokes Die Press

THE Vokes Die Press is designed for die stamping all types of work using from ½ in. to 2 in. by 4 in. dies, according to the sponsor, George Vokes (Engineering Div.) Ltc. Speed of the



The Vokes Die Press for die stamping of work using from ½ in. to 2 in. by 4 in. dies. It is shown here with the Vokes Drier at the right.

built-in 1 h.p., a.c., motor permits between 1000 and 2600 i.p.h.

It is claimed that the motion of the wiping mechanism which wipes the die of excess ink requires using only a small length of wipe-off paper. A re-reeling device which functions in conjunction with the wiping mechanism provides the same rate of feed of wip-off paper when once set to removed the surplus ink. The wipe-off system is designed so that the wet surface of the wipe-off paper remains away from the rollers and other parts of the press to prevent sticking and breakage.

Sponsor states the feed guard arrange-

(Continued on Page 82)

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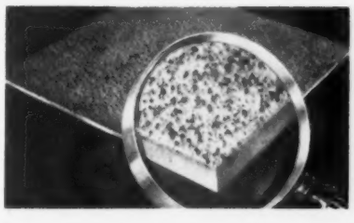
Get these *savings from safety*, starting today. Take a moment to request our new ALGRIP Foot-safety Booklet, AL-33. Also, ask any questions you wish; we'll be glad to answer them.



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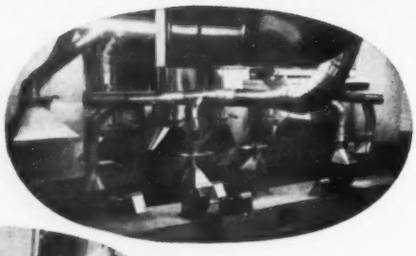

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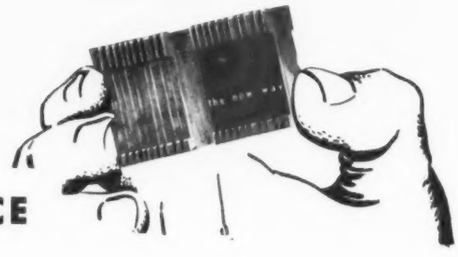

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PRINTING
EQUIPMENT
Engineer
February 1953

From Stone Age to Bi-Metal

By AXEL LUNDBYE

I.

THE lithographic stone age started in 1796, or maybe it should be stated that it started in Prague, November 6, 1771, when Alois Senefelder was born. But it took this remarkable man twenty-five years to develop "writing on stone" — the Greeks had a word for it — lithography.

The man Senefelder was an outstanding person, and combined with this person was an artist, chemist, inventor, and mechanical genius. These qualities are seldom found combined in one, especially when we know that he was a master in each of these fields.

Actually what Senefelder finished accomplishing in 1796 was not a product all at once. He had used his exceptional gifts through the years, and by 1796 he had the puzzle all put together, and was ready to demonstrate to the world the great process of reproducing minute details many times over again. The mechanical genius was grinding a Kelheim stone, and he wanted it flat—as close to optical flat as he could get it. He was going to use it for an anvil to grind his ink, and as the inventor, he found that he could write in reverse on these flat stones with a greasy substance, and that the stone, where no writing was, would absorb water. As the chemist, that gave him an idea. He built up around the edge of the stone with wax, then he poured what he called, "acqua-fortis," onto the stone, and after a few minutes he discovered that his writing had become elevated above the stone a few thousands of an inch.

"Acqua-fortis" (strong water) is a term given many solvents. The most commonly used is one part of nitric acid and nine parts of water. What exact formulation Senefelder used is lost in history.

After he discovered the raising of the letters, he removed the wax and wetted the stone with water, squeezing the excess water off and inking up the stone. He found that he got a very fine reproduction of his writing from the stone, and he could repeat the reproduction as many times as he wanted, and if he was real quick, he could get two to three hundred reproductions an hour. This work was done in Munich, and he was given by the King of Bavaria, a handsome pension up to his death in 1834.

The first real color work in lithography was done by the lithographer Currier in 1835. The twenty-two year old Currier set himself up in the printing business, and his first color printing by lithography was *Ruins of the Merchant Exchange*. Later the artist, James Ives, went into partnership with Currier. These two men in partnership printed many prints in lithography, mostly in color, and sold the prints for about one dollar apiece. What the present day connoisseurs think of their work has been told many times over. The price of single prints of Currier and Ives run from several hundred dollars to a thousand dollars for a single print.

In 1869, a twenty-three year old Danish lithographer, Carl Aller, had developed what he called photo-lithography and for that work, he received the H. C. Orsted award, the highest technical award to be given in Denmark.

For many years, Aller tried to carry his dream through to perfection, to use his process in lithography, but because of the limitation of the stone, he never saw any successful printing by his process. However, he did start an illustrated magazine in Copenhagen, *Aller's Familie Journal* (*Aller's Family Journal*).

Carl Aller's descendants have tried to carry through his process. With the coming of zinc offset plates, which was the first step from lithographic "writing on stone" to offset, it looked like Carl Aller's dream would come true for his descendants. But with the limited life for a zinc plate at that time, they continued for a long, long time in printing their magazine by letterpress.

It remained for the grandson of Carl Aller, Claes Aller, to carry his grandfather's ideas through to success. In 1928 he started experimenting with different metallic plates. It was not until 1936 that he started experimenting with stainless steel base plates as the water receptive base, and then copper plating the stainless steel as ink receptive.

Some twenty-five years ago, we had approximately 600 shops printing by offset lithography and doing an annual

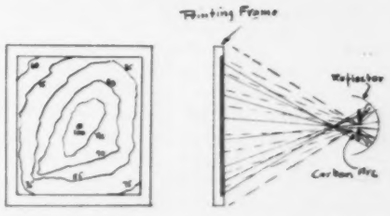


Fig. 1.—Standard Carbon Arc Light. Assuming the center of the printing frame is taken at 100%, then a typical distribution of light intensities in per cent is indicated in the plan view of the frame. Some arc lights will have a better distribution, and some not as good.

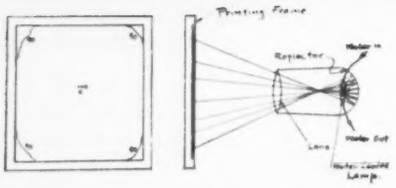


Fig. 2.—Water cooled incandescent lamp with reflector and lens. By the proper design of lens, an evenly distributed light intensity can be obtained over the whole surface of the printing form.

business of approximately $90 million. Today we have approximately 3500 shops with an annual turnover of more than $600 million. We have come a long way from the Kelheim stone, the old slate, the yellowish, fine grained limestone, when artists drew their designs on the stone with soapy ink or other ink receptive medium.

That was the time the lithographer had to be a printer, artist, inkmaker, and a chemist all in one, and that was a hard combination to find at that time, as it is today. In a few years the stone will become a museum piece. The process with the stone was very unreliable but some wonderful work has been done with it.

In the meantime, the offset printing industry has been doing some fine production printing with the albumin and deep-etch plates, but the trials and tribulations are many.

With the present day albumin and deep-etch plate it should not be necessary to state that a tremendous amount of trouble, both in making the plate and running it started with the exposure of the plate. The light sensitive dichromate albumin varies greatly with the moisture content. This coating is hygroscopic. Therefore, its moisture content varies with the relative humidity of the atmosphere of the workroom. It has been proved that the exposure time to produce a good plate will take twice as long at 30% as it will at 60% relative humidity. It can then be seen that to obtain a uniform result it is mandatory to shorten the exposure time or change the relative humidity. Therefore air conditioning installation in the plate processing area will be necessary for good work. To obtain acceptable work without the aid of controlled relative humidity, it is necessary to find the proper exposure time by trial and error, or a series of exposures at different humidity. From such trials, a chart can be made within the range of several relative humidities. Of course, that makes it necessary to have a very exacting relative humidity gauge in the processing area. The best we know of, and at the same time the cheapest, is the wet and dry bulb hygrometer. It is the only type exacting enough for proper work. Of course, it must be used as recommended by its manufacturer, otherwise it is useless. One must be sure that the wet bulb is kept wet. Before a reading is taken, a wet bulb must be fanned until the temperature drops into the lowest reading on the wet bulb.

Another important factor is the vacuum in the frame. If at all possible, the same vacuum should be kept on all exposures. The higher the vacuum in the frame, the better the result. It can readily be seen why with the higher vacuum we will have a better contact between the plate and negative or positive. Besides the coating is less sensitive under higher vacuum than it will be under the lower vacuum. When we expose the plate in the vacuum frame and use an arc light for our light source, time should not be used for measuring because of too much variation. The light impulses are much preferred. If we use the time element, we will have greater variation of hardening in the light sensitive plate. On the other hand, with a light integrating meter we will measure the correct amount of light impulses hitting the plate. There are many such meters on the market, and

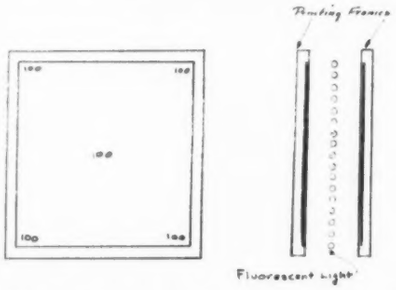


Fig. 3.—Fluorescent Light. The surface of the whole printing frame will be 100% if the fluorescent tubes are properly spaced.

they are used to some extent throughout the industry. Weston and General Electric both build very fine light integrating meters.

Some interesting work was done a few years ago with the water cooled incandescent lamp. It is a lamp with an approximate diameter of a lead pencil, and about 1½ in. long. This lamp was placed inside a quartz tube, water flowing between the tube and light bulb, and in that manner keeping the lamp cool. The lamp had an output of 2 k.w. The main drawback with this lamp was that should the water stop for only a fraction of a minute, the lamp would blow up because of the heat inside the small area. However, these lamps could be used without a light integrating meter, and only the time element was necessary. It has been agreed for some time that it has been nearly impossible to cover the whole frame with equal light intensity all over, and furthermore, by using the arc light, the light beams were striking the vacuum frame in all directions. (See Fig. 1.)

Therefore a lens was placed in front of the arc or the water cooled lamp. The purpose of this lens was to attempt to straighten out the light beams, and also to obtain an evenly distributed light over the whole vacuum frame. (See Fig. 2.)

These two purposes were accomplished. It was found that when using the lens we did not need as high a vacuum as we did with an arc light, and we could still obtain a satisfactory reproduction.

Next, fluorescent lights were tried. Here it was quite easy to obtain an even light intensity over the whole frame. It was not until late in 1939 that this type of light was introduced into the industry. The fluorescent light frame did not get much of a workout in the offset printing industry, but it was used by one of the largest rotogravure printers for exposing carbon tissue. By using the fluorescent lights no light integrating meter was required—only a voltage regulator in the input line. As a matter of fact, these fluorescent light installations are still being used by the company who started them sometime early in 1940. Executives of this company think they have the best, and think they get the best result obtainable. The question might be raised, "Why aren't they used more throughout the Graphic Arts industry?" (See Fig. 3.) That is a question that has not been answered up to the present time.

One thing to remember is that a sharp dot in the negative will produce a better finish printing plate—that is, a plate produced from such a negative will give better press life and better quality printing.

(*To Be Continued*)

• *Time-Saving Tips*

Color Code for Markup

IN PLANTS where copy to be set is marked up for different kinds of composition, a magazine color pencil can be used to indicate on what machine the composition is to be done. For instance, the black lead indicates hand composition, the red may be used for Intertype or Linotype, the blue for Ludlow, and the green for Monotype. Together with suitable point size symbols and abbreviations for names of faces a system may be worked out which will enable the compositor to follow instructions accurately. — Reported by Herbert Ahrendt, Vice President, Ahrendt, Inc., New York, N. Y., before Cleveland Craftsmen's Club.

Specialty Flocking

COMPARATIVELY short specialty runs requiring flocking may be done on the platen press in combination with hand application of the flocking material. First, distribute glue ink on the ink plate and rollers in the usual way with a rather heavy amount of the glue ink on impression. Application of the brilliant flocking material of course is done by hand in a manner similar to bronze dusting.—Reported by Herbert Ahrendt, Vice President, Ahrendt, Inc., New York, N. Y., before Cleveland Craftsmen's Club.

R & E Council Technical Meetings

THE Executive, Planning and Publications Committee of the Research and Engineering Council met at Hotel Cleveland, Cleveland, on Thursday and Friday, January 22 and 23. The meetings of the three Committees were held in succession. The Publications Committee was presided over by John Davis, jr., Council Vice Pres. The Planning Committee meeting was under the supervision of Vice Pres. Elliott Donnelley. Council President Edward J. Triebe conducted the proceedings of the Executive Committee on Friday. Pretentious plans for technical activities were formulated.

No. 2 Makeready Meeting

Among the more important actions taken by the executive committee were those pertaining to the holding of two technical meetings this year. The first of these will be the No. 2 Makeready meeting at Sheraton-Gibson Hotel, Cincinnati, on Thursday and Friday, October 1 and 2. Lee Agustine, Vice Pres., Printing Machinery Co. of that city, is chairman of the Program and Arrangements Committee. The Council is to be commended upon holding this No. 2 Makeready meeting which follows so soon after the first one in Chicago. It is one of the Council's objectives to establish practical makeready methods in relation to letterpress, offset and gravure printing processes. Included will be preparation of plates by all processes. The subject will be treated more in detail than at the first Makeready meeting in Chicago.

Color Separation Meeting

The second 1953 technical meeting of the Council will be held in Los Angeles in December—dates to be determined as soon as possible. Arrangements chairman for this meeting is George C. Schaefer, President, George C. Schaefer Engraving Co., 122 Glendale Blvd., Los Angeles 26, Calif. It is planned to have an exhaustive investigation and demonstration of color preparation for Graphic Arts reproduction. Those attending will get first-hand information in a locality where some of the world's finest color separation work is done.

(*Continued on Next Page*)

Some of Those Attending R&E Council's January Executive Committee Meeting in Cleveland

1.—William Baumrucker, jr., Production Mgr., Washington (D.C.) *Times-Herald;* Herbert Morrow, Research Dept., Rochester Institute of Technology; Vice Pres., Elliott Donnelley, Vice Pres., R. R. Donnelley & Sons Co., Chicago.

2.—C. Howard Thomas, President, National Pub. Co., Philadelphia; C. A. Mawicke, General Mgr., Pontiac Engravers & Electrotypers, Chicago; Dwight Monaco, Vice Pres., McGraw-Hill Pub. Co., New York, N. Y.

3.—E. O. Vandercook, President, Vandercook & Sons, Inc.; John H. Davis, jr., Production Mgr., *National Geographic Magazine* Div., Judd & Detweiler, Washington, D. C.; Fred Baldwin, Dobeckmun Co., Cleveland; Ralph B. Tufts, Research Director, Cornelius Printing Co., Indianapolis, Ind.

4.—Morris S. Kantrowitz, Technical Div. Director, U. S. Government Printing Office, Washington, D. C.; Secretary J. Homer Winkler, Technical Advisor, Battelle Institute, Columbus, O.; Treasurer Joseph Schwartz, General Mgr., Westcott & Thomson, Philadelphia; Wade E. Griswold, Executive Director, Lithographic Technical Foundation, Inc., New York, N. Y.

R & E Council

(Continued from Page 33)

As has been previously announced, the annual meeting of the Council will be held probably May 14 and 15, this year, in St. Paul, Minn., hotel to be announced later.

Other Details

Among announcements made at the Cleveland meeting was that of the appointment of John Reed as full time Executive Secretary of the R&E Council. He will work under the supervision of Managing Director Bernard J. Taymans.

An interesting note is that Dr. Marvin C. Rogers, Technical Director of R. R. Donnelley & Sons, Chicago, will attend the Second Annual Conference of Printing Research Institutes in Stockholm and Salen, Sweden, June 8 through June 13. Major topic of this conference is *Printability*. Dr. Rogers has been selected official representative of the Council to the conference and will deliver a paper. Also, among those who will attend from the United States are Dr. George Sears, Institute of Paper Chemistry, Appleton, Wis., and Dr. Robert F. Reid, Lithographic Technical Foundation, Chicago.

The Ways and Means Committee formulated a plan for solicitation of plants to secure memberships in the Council. Chairman Donnelley confidently expects the Council to increase its membership by at least one-third during 1953.

The Publications Committee scheduled four technical bulletins for publication prior to July. These are: (1) Proceedings of the Pre-makeready and Makeready Conference in Chicago; (2) Rubber and Plastic Printing Plates; (3) Paper Handling in the Graphic Arts; (4) Supplement to the 1952 Report, Research and Engineering Problems Pertaining to the Graphic Arts Industry.

McBroom Speaks in Milwaukee—Milwaukee-Racine Craftsmen are shown discussing the slogan *Printing Tells the Story* with Claude V. McBroom (second from right), Director of Mfg., Meredith Publishing Co., Des Moines, Ia., who was speaker at the 1953 Printing Week Banquet held in Milwaukee. Others in the photo, from left to right, are: Earl Ellis of Western States Envelope Co., Intl. Craftsmen's Sixth District Representative; Gil La Vesser of Bookcraft, Inc., Chairman of the Banquet and Past President of the Milwaukee-Racine Club; Robert Konsin of Western Printing and Lithographing Co., Racine, President of the Milwaukee-Racine Club; McBroom; and E. E. Radloff of C. B. Henschel Co., General Printing Week Chairman. Ten other Graphic Arts and advertising organizations participated in the week-long celebration.

Detroit Puts On Printing Week Show—Members of the Detroit Craftsmen's Club, Litho Club, Graphic Arts Guild and Supplymen's Guild coordinated their efforts in staging a mammoth exhibit of printing at the Veteran's Memorial Bldg. Shown in front of some of the displays, from left to right, are: Harry B. Friedenberg, Immediate Past President, Detroit Craftsmen's Club, and Chairman of the Intl. Participating Membership Committee; Robert Knox, General Co-Chairman of Printing Week; Joe Piper, President, Detroit Craftsmen's Club; and Earl Bierbauer, Craftsmen's Club Printing Week Chairman. At the Printing Week dinner, Ray Olson of Modi-Graphic Co. was principal speaker. Olson described the Fotomaster photodimensional and proportioning camera.

Graphic Arts Printing Week Is Observed

WITH the energetic assistance of the Intl. Assoc. of Printing House Craftsmen, a number of Graphic Arts organizations and companies participated in the 1953 observance of Intl. Printing Week, staging appreciative programs of educational benefit to industry members and the general public alike. This year's celebrations, held from January 11 to 17, were conspicuous because of their expanded activities and added emphasis on the importance of printing. The appeal went out also to interest youth in the benefits of Graphic Arts education and entering printing as their life's work. Typical of the week-long festivities were the events held in the following cities:

Toledo, O. Under the direction of Craftsman Robert Romberger of Macomber Vocational School, the city observed Printing Week with exhibits of printing made by the school's Graphic Arts students for Toledoans to see. The Toledo Advertising Club, by arrangement of Craftsman Vice Pres. C. A. Lawrence heard talks on *What the Advertiser Expects from the Printer* and *What the Printer Expects from the Advertiser*.

Southern California The Southern California program, sponsored by Printing Industries Assoc., Inc., centered around the Zellerbach Paper Co.'s exhibit in Los Angeles. The exhibit was called *New Ideas From the Old World* and consisted of some 300 specimens of promotion pieces, newspapers and magazines, advertisements, posters and books gathered from different European countries.

New York Once again, all Graphic Arts organizations in the New York, N. Y. area cooperated in presenting as complete a program as possible which included technical clinics, talks, exhibitions, city hall ceremonies and industry open house. Highlight of the week was a dinner at which the Hon. Paul G. Hoffman, former

Nationwide Printing Week Scenes

1.—Cleveland's General Chairman for Printing Week, Clay Herrick (left), Account Executive, Fuller & Smith & Ross, Inc., is shown with Miss Graphic Arts of Cleveland, Joan Cornett. Ray Saks, Chairman of the Contests Committee and President, Allied Decals, Inc., Cleveland, is at the right. Miss Cornett is an artist with Pitt Studios, Cleveland.

2.—Public Printer John J. Deviny (left) receives the first copy of a special reprint of the Printing Week Objectives Poster from Morris H. Reaves, chairman of the Washington (D.C.) Committee.

3.—Robert Klimas, a student at East Technical High School, Cleveland, was the winner of a scholarship to Rochester Institute of Technology in a competition held in conjunction with Cleveland's Printing Week celebration. The educational feature was sponsored by the Cleveland (O.) *Press*. Shown from left to right: Barnett Taylor, Principal, East Tech; Norman Shaw, Associate Editor, Cleveland *Press;* Klimas; Clarence Doubler, Printing Teacher, East Tech; and Joseph Koteles, East Tech, all of Cleveland. Koteles was second prize winner in the competition and was awarded 50 dollars to be contributed towards his education.

4.—Kathryn Grayson, motion picture star who was selected Miss Printer's Devil by the Intl. Assoc. of Printing House Craftsmen for 1953, holds the official Printing Week poster while Ferd Voiland, jr. (left), Intl. Printing Week Chairman, and A. R. Tommasini, Intl. Public Relations Chairman, look on.

5.—Mayor of Chicago, Martin H. Kennelly, is shown signing Printing Week Proclamation for the celebration which was sponsored by the Chicago Craftsmen's Club. Standing from left to right are: Steve Sluka, Second Vice Pres.; James R. Anderson, President, both of the Chicago Craftsmen's Club; Ed Landwrher, Chicago Printing Pressmen's Union, No. 3; Carl E. Dunnagan, Past President, Printing Industry of America; Roy J. Kirby, Intl. Printing Week Committee; Gradie Oakes, Past President, Intl. Craftsmen's Assoc.; Don E. Crews, Chairman, Printing Week Committee, Chicago Craftsmen's Club.

6.—Participants in the York, Pa., Printing Week events were, from left to right: Robert Lynerd, York Craftsmen's Club, dressed as Ben Franklin; J. Homer Winkler, Immediate Intl. Craftsman Past President, who was a dinner speaker; and D. W. Wardrop, Chairman of York's Printing Week Committee.

Administrator of the Economic Cooperation Administration, was the speaker. Mr. Hoffman was presented with the Franklin Award for Distinguished Service by New York Employing Printers Assoc., Inc.

Television Drama As a tribute to Printing Week 1953 and the printing and publishing industries, Westinghouse Studio One, television drama series, presented the dramatization of *The Trial of John Peter Zenger*. Zenger was an 18th century New York printer and champion of the American free press. It was presented over a coast-to-coast network.

Cleveland A student of printing in the Cleveland schools was the recipient of a scholarship to Rochester Institute of Technology, awarded through the efforts of the Printing Week Committee. Fifty organizations, spearheaded by the Cleveland Craftsmen's Club, promoted the observance which included several contests for school children. The life of Benjamin Franklin as a printer was Speaker Francis Howe's, subject at the annual banquet.

York, Pa. Printing Week was noted in Central Pennsylvania through activities held in York, Pa. York Craftsmen heard J. Homer Winkler, Battelle Memorial Institute and Past Intl. Craftsman President, speak at their meeting. The lobby of one of York's hotels was turned into a combination pressroom and Graphic Arts gallery to accommodate a number of working and stationary exhibits. Other displays appeared in bank lobbies, store windows and the local library.

Chicago Emphasis on talks before high school and college students and businessmen's groups was placed by Chicago Craftsmen as their contribution to the publicizing of the printing industry. The committee which guided the event was headed by Don E. Crews, Vice Pres., Sam'l Bingham's Son Mfg. Co. The speakers told their audiences that printing in Chicago, as well as Illinois, ranks first in the number of plants and employees, wages paid and value added by the manufacturer.

Washington, D. C. The Washington, D. C. Graphic Arts industry held what it termed the greatest observance of Printing Week in the history of the Capital City. Over 7000 bumper strips on autos and trucks, and 40,000 Gutenberg commemorative stamps on printing companies' mail were used to herald the activities. Twelve groups, under the chairmanship of Morris H. Reaves, Supt. of Composition, Government Printing Office, cooperated in the planning. John J. Deviny, Public Printer, and J. R. Wiggins, Managing Editor, Washington (D. C.) *Post*, were the principals at an industry-wide luncheon.

great lakes conference considers

column width

and other problems in newspaper production

THE Great Lakes Mechanical Conference held at the Deshler-Wallick Hotel, Columbus, O., on January 10, 11, 12 and 13, inclusive was successful in every way. Mechanical and production executives were primarily engrossed with current problems associated with high shrink mats, narrower column width and and reduced newsprint consumption. A number of splendid addresses relating to operating techniques and costs were delivered.

Attendance, according to Secretary Don Clark, exceeded that of all previous Great Lakes conferences. Nearly 600 were registered, many of whom represented 170 newspapers, and approx. 190 of which consisted of manufacturer and supplier representatives.

Exhibits

Manufacturer and supplier company exhibitors were as follows: Alico, Inc.; American Type Founders, Inc.; Automatic Saw Sharpening Co.; Sam'l Bingham's Son Mfg. Co.; Capital Tool & Mfg. Co.; Fairchild Camera & Instrument Corp.; Hammond Machinery Builders, Inc.; Heidelberg Eastern Sales; Imperial Type Metal Co.; Mark Kirstein; Linotype Parts Co., Inc.; Matrix Contrast Corp.; Minnesota Mining & Mfg. Co.; Monomelt Co., Inc.; The Morrison Co.; Nolan Corporation; Pantone Engineering & Mfg. Co.; Parsons & Whittemore, Inc.; Unitronics, Inc.; J. A. Richards Co.; Tingue, Brown & Co.; Vandercook & Sons, Inc.; Wiretyer Corporation.

The conference assembled for the opening session on Sunday morning. At this time, President Harry A. Miller welcomed everybody. After concluding his opening remarks he introduced Editor Don Weaver of the Columbus (O.) *Citizen* who told the executives how pleased the Columbus newspapers were to be hosts to the conference.

Columbus newspaper mechanical executives composed the Local Arrangements Committee. Under the leadership of Fred Plimell, Composing Room Supt., *Ohio State Journal*, they did their job well. Many compliments were heard.

The Manufacturers' and Suppliers' Committee was host at a banquet on Sunday night. Vice President Clarence Seaman of Imperial Type Metal Co., and John Feldkamp of Geo. H. Morrill Co., were Chairman and Co-chairman respectively of the Committee.

Executives Visit Battelle

At the closing session of the Great Lakes Mechanical Conference on Tuesday afternoon, January 13, approximately 100 newspaper executives visited Battelle Memorial Institute in Columbus. Battelle's research activities in many industrial fields were explained by J. Homer

In Happy Mood Are These Officers, Directors and Executives Attending Board of Directors Meeting at Great Lakes Mechanical Conference, Columbus, O., January 11, 12 and 13.

1.—Immediate Past Pres., Harry A. Miller, Mechanical Supt., Dayton (O.) *Daily News;* Member Local Arrangements Committee I. T. McQueeney, Mechanical Supt., Columbus (O.) *Dispatch;* Conference Program Chairman Deo A. Padgett, Composing Room Supt., Cleveland *Plain Dealer.*

2.—Vice President Frank Dassori, Pressroom Supt., Detroit *Times;* President Horace H. Parker, Superintendent, Richmond (Ind.) *Palladium-Item;* Secretary-Treasurer Don Clark, Stereotype Supt., Grand Rapids (Mich.) *Press.*

3.—Robert H. Smith, Mailing Supt., Indianapolis (Ind.) *Star-News;* Director Joseph Walker, Mailroom Supt., Cincinnati (O.) *Enquirer;* Richard B. Marsh, Photoengraving Supt., Columbus (O.) *Dispatch;* Elmer C. Kratzer, Stereotype Supt., Dayton (O.) *Daily News.*

4.—W. F. Alexander, Photoengraving Supt., Cleveland *Press;* Charles Kirk, Stereotype Supt., Detroit *News;* Conference Vice Pres. Jack Innis, Stereotype Supt., Indianapolis (Ind.) *Star-News;* Conference Vice Pres. Cecil Watkins, Mechanical Supt., Sidney (O.) *Daily News.*

5.—Conference Director Leroy Schultz, Pressroom Supt., and Joseph E. McMullen, Production Mgr., both of Milwaukee (Wis.) *Journal;* Local Arrangements Chairman Fred Plimell, Composing Room Supt., *Ohio State Journal,* Columbus, O.; George Feldt, Mailing Dept. Supt., Milwaukee (Wis.) *Journal.*

Winkler. Technical Advisor. At the present time, Battelle employs about 2000 people and maintains eight separate buildings on 14 A. of ground. The visit to Battelle certainly demonstrated to the visitors that research in itself is a potent force in our daily lives, no matter in what fields we may be engaged. Mr. Winkler introduced M. F. Browning, a research engineer at Battelle, who explained the work that has been and is currently being done for Printing Plates Research in the electrotyping field. The next speaker to be introduced was James Dugan, a research engineer who discussed the research work being carried on at Battelle for the gravure industry. Dr. Donald Byers was next introduced, he discussing Photoengravers Research at Battelle. William Reid, Supervisor of Battelle's Graphic Arts Div., discussed Xerography and conducted a complete demonstration from the making-up of plates to printing copies by Xerography on a Multilith machine. It was explained on the letterhead size copy that Xerography is electrical in nature rather than chemical. It is a completely dry process which prints without ink. Any print can be made in less than a minute. Xeroprinting is based upon the attraction of powder to an electrically charged image and the subsequent electrical transfer of the powder to paper or other material. The copies printed at Battelle were fused automatically to prevent offset smear or smut.

Two Problems Face Composing Rooms

THE subject of page costs and deadlines formed the main points of discussion at the Composing Room Session of the Great Lake Newspaper Mechanical Conference. Chairman of this meeting was Harold H. Higgins, Composing Room Supt., Detroit *News*, assisted by Don Burgoon, Composing Room Supt., Columbus (O.) *Citizen*.

Two speakers were scheduled for this session. The first was C. Frank Mann, Composing Room Supt., Louisville (Ky.) *Courier-Journal* and *Times*. The second speaker was Mechanical Supt. Harry A. Miller, of the Dayton (O.) *Daily News*, who addressed the meeting on *Labor Distribution Plan to Give Uniform Page Cost Breakdown in the Composing Room*.

Mann Discusses System

Mr. Mann's address was entitled *Page Cost and Deadlines*. Mr. Mann emphasized that both page costs and deadlines should be patterned to meet local requirements. "Each of us," he said, "are using homemade techniques and most of us think our way is good."

Increased news room activity, magazine makeup style, daily comics, markets, number of editions each shift and classified ads are among the things which make page cost comparisons almost impossible, he said. However, it is possible to operate a system of accumulated weekly comparisons in order that each of more than 20 individual operations may be watched on an hours per page basis.

The speaker related that the number of columns of news and ads produced each shift at the *Courier-Journal* does not correspond with the number published each day. A clerk is employed to measure daily production.

Team work and high personnel morale are necessary in achieving production goals. With a minimum number of linecasting machines it is necessary to attain maximum production on each edition or at peak hours in each shift. What goes on between or after often spells the difference between low and high page costs, he added.

Longest Deadline

Mann said that the advertising manager on the Louisville newspaper says that they have the longest deadline in the country. Deadlines, he continued, should be established on ability to produce. Equipment and manpower available should be considered. The speaker referred to a six page folder he had prepared with suitable tables for advertising copy, correction deadlines and edition schedules. The folder contains the information that the *Courier-Journal* and *Times* allows 38 hrs. in which to furnish proofs after receipt of advertising copy.

In reply to a query from Leon Link, Production Mgr., Cleveland *Plain Dealer*, he said: "Out of over 1400 advertising accounts we have perhaps less than 100 that seemingly have to learn that we have deadlines. The other 1300 are providing a means for better service as well as acceptable production costs. We have never said 'no' to a deadline violator who requested additional service."

Mr. Mann declared that ad solicitors pay less attention to established and approved deadlines than the advertisers. He added: "We have failed to get over to our men the necessity of giving the composing room an opportunity to service copy.

"The 20 min. deadline on news copy seems to mean to most news room men that they must clear the desk 20 min. before the last form is to be released. It is our opinion that they hold more copy than can be set and proofread and dump it into the composing room 5 min. before the 20 min. deadline. They are on time, under the wire, and we are stuck."

Heister Ring —What Is It?

(Pressroom Supt. Frank Dassori of the Detroit Times, *discussed the* Heister Ring *as a means for conserving newsprint consumption in daily newspaper plants. He addressed the Pressroom Session of the Great Lakes Mechanical Conference, Columbus, O., on January 12. Following is a transcript of his address with illustrations.)*

THE Heister Ring is a device installed in the bottom of the stereotype casting box in place of the regular ring. It's immediate purpose is to move the top point of the bevel back under the plate's printing surface $\frac{1}{8}$ in. The ultimate purpose is to save newsprint. Where the Heister Ring is used the stereotyper proceeds with plate-casting in the customary manner. In the composing room, the makeup man (in our operation) shifts the $\frac{1}{4}$ in. bar to the folio side of the page. The installation of the Heister Ring in the casting boxes has not complicated the stereotypers' operation in any way. To those who are contemplating use of the Heister Ring it is best that you have the manufacturer of your stereo equipment do the milling of this ring to insure a precision job.

Plates are cast as before without any additional operations such as filing or scraping. When requested, our stereotype department has reversed the regular procedure and has cast plates with the recess on the opposite end of the plates. This was necessary when tabloid pages were planned for the center spread of a standard section and were to run tail to tail or when a tabloid insert was to be printed upside down to distinguish it from the main section of the pictorial review.

This saving can be realized if the stereotype plate is cast with a 45 deg. bevel. It will not show sufficient results on a 60 deg. bevel to justify installation. The Heister Ring causes a recessing of the plate bevel that enables the press cylinder locking clips to move $\frac{1}{8}$ in. under the plate. The affected portion of the plate does not touch the ring in the center of the cylinder or the lockup band.

In brief, when the plate is put on the press against the center ring the recess in the plate permits the clip to slide in $\frac{1}{8}$ in. further than if the regular plate bevel is used. Therefore, the distance from the ring to the outside edge of the printing surface of the plate remains the same as it was before the Heister Ring was installed. The only change is in the position of the clips. They are in $\frac{1}{8}$ in. further toward the center ring.

When the outside plate is placed on the cylinder the recess permits it to absorb $\frac{1}{8}$ in. of the clip surface which added to the $\frac{1}{8}$ in. realized on the inside plate results in a saving of $\frac{1}{4}$ in. in the distance from the ring printing surface to the edge of the other plate that is against the lockup band. This is a saving of $\frac{1}{2}$ in. across the cylinder. Thus the differences on paper webs may be expressed as follows:

64 in.	48 in.	32 in.
$63\frac{1}{2}$ in.	$47\frac{5}{8}$ in.	$31\frac{3}{4}$ in.

In theory, each plate across the width of the cylinder would permit a decrease of $\frac{1}{8}$ in. in the overall width of the roll of paper. This is true when a full roll is

View of a four-plate-wide printing press plate cylinder in plant of the Detroit *Times*. The cylinder is dressed with plates which have been cast with $\frac{1}{8}$ in. recessed edges. The recesses are provided by installing a special or Heister ring in the bottom of the stereotype casting box. The recesses permit the locking clips to be positioned $\frac{1}{8}$ in. under the printing surface of the plate, thus moving the plates closer together and narrowing the newsprint page margins. As explained by Pressroom Supt. Frank Dassori, "when the outside plate is placed on the cylinder the recess permits it to absorb $\frac{1}{8}$ in. of the clip surface which added to the $\frac{1}{8}$ in. realized on the inside plate results in a saving of $\frac{1}{4}$ in. in the distance from the ring printing surface to the edge of the other plate that is locked against the lockup band. This is a lessening of the distance across the cylinder of $\frac{1}{2}$ in."

used or when a half roll is run on one side of the press. It does not hold true when a three-quarter roll is used or a half roll is run in the center of the press. For example, when plates are placed on a cylinder for a three-quarter roll the ¼ in. is saved on the half of the cylinder that is plated. However, on the side that carries the dinky where the printing surface width remains the same there is no saving. Therefore, the three-quarter roll width should be reduced ¼ in. instead of the supposed ⅜ in. where a half roll is run in the middle of the press there should be no reduction in the width of the half roll. Both printing surfaces remain the same and the reduction of ¼ in. on the roll width will result in almost a total loss ofmargin. If proportionate reductions in the three roll sizes are made the lack of margin can be overcome by casting the plates that are to be used for the half roll in the center with the recess on the opposite side. In the instance of the three-quarter roll the dinky plates only should be cast with the recess on the opposite end.

The statement to the effect that all the pressman had to do was move his trolleys did not hold good in our case. In addition to trolleys we moved slitters, drag roller sections and angle bars on all units where dinky slitters and angle bars were used. One point that does not deal with the printing question but that is to be considered in the overall operation cost, is the substitution of two three-quarter rolls where a half roll would ordinarily be used. Freight and cartage costs are greater for the three-quarter roll than for either of the other two roll sizes. This can be an important cost factor.

1953 Officers and Directors Great Lakes Conference

President—Horace H. Parker, Stereo-Press Supt., Richmond (Ind.) *Palladium-Item.*

Vice-Presidents—Otto Lepp, Mailing Room Supt., Milwaukee (Wis.) *Sentinel;* Frank Dassori, Pressroom Supt., Detroit (Mich.) *Times;* Cecil Watkins, Mechanical Supt., Sidney (O.) *Daily News;* John E. Innis, Stereotype Supt., Indianapolis (Ind.) *Star-News.*

Secretary-Treasurer—Don Clark, Stereotype Supt., Grand Rapids, (Mich.) *Press.*

Directors—Fred Plimell, Composing Room Supt., Columbus (O.) *State Journal;* Roy Schultz, Pressroom Supt., Milwaukee (Wis.) *Journal;* Ernest Scherer, Photoengraving Supt., Detroit (Mich.) *News;* Joseph Walker, Mailing Room Supt., Cincinnati (O.) *Enquirer;* Lloyd Wright, Stereotype Supt., Fort Wayne (Ind.) *News-Sentinel.*

Immediate Past President—Harry A. Miller, Mechanical Supt. Dayton (O.) *Daily News.*

R.o.p. Color Handling at S.B. Tribune

By ROYAL RAGER*

**Stereotype Supt., South Bend (Ind.) Tribune before Great Lakes Conference, Columbus, O., January 1953.*

OUR method of handling color is somewhat different from methods used in other papers. We have a three day deadline on one color and black and seven days on three colors and black. But, as so often happens, we have set aside a deadline occasionally and our own departments are the culprits more often than our advertisers.

When color ads, electrotypes, plastics, stereotypes or mats arrive in the Stereotype Dept. accompanied by Dispatch Room color and insertion order, they are processed as soon as possible. Stereotype keeps a record giving name of product or advertiser, size of ad, color or colors, insertion date, when received and when registered and based ready for compositor. All color plates are checked for register with copy furnished regardless of the presence of register marks, and we find it pays to do so. A few extra minutes in the Stereotype Dept. may save a lot of press time when minutes are vital.

In checking register we use a wooden frame, page size or larger, covered with Craftint Mattex acetate 0.010 in. thick. Select one plate as the key plate, generally the black, and proof the other plate on the acetate. We use regular press black ink and our mat roller as a proof press. We lay our key plate on stereotype base and place the acetate proof on this plate, shifting it until register marks are in register or until plate and proof are in register. We then use a sharp punch to punch through the acetate and into dead metal area using these points for centering a ⅛ in. drill when drilling the plate. We try to make three places in each plate for these pins to hold the plate from shifting during molding. Proof is then transferred to plate from which proof was made and placed in register once more, punched and drilled. The key plate is positioned on the base and the base is drilled through register holes in plate to accommodate pins cut from ⅛ in. drill rod. We drill through the stereotype base so as to drive the pins out and save them for future use. Plates are trimmed to column size leaving as much dead metal as possible, padding out open areas with material of suitable thickness and are then stored with copy for compositor to pick up when ready to make up the page.

Mats are molded either by roller or direct pressure and care used in trimming mats especially on the ring side. All color mats are timed during the packing process so that all mats are out of the pre-shrinker the same time before going to the Sta-Hi. Care is taken in placing the mat in the Pony Autoplate, being sure the mat is down against stops and up at the head, again using same time and water for each plate. Plates are checked for shrinkage, arranged in sets and sent to curved routers. After plates are nickeled they are ready for the pressroom.

Our pressmen say they have very little difficulty in getting register from our plates, a number of color runs are placed on the press and need no shifting sideways to secure proper register. Thus a little extra time in the Stereotype Dept. pays dividends when the press deadline is drawing near.

Process color is handled in much the same way. Our color plates come from the engravers with suitable register marks. These marks are punched and drilled in the same manner as for our two-color plates with the exception that a smalier drill and pins to key the plates on solid stereo base are used.

We hot-mold all our halftone three-color mats and again care must be taken in the trimming and casting of the mats. We normally cast four plates from each mat and from these pick two of each color and arrange in sets. Any plates that vary more than one lead in shrinkage are discarded as being out of register. After two sets of each color are selected they are ready for color routers, followed by nickeling before being sent to the pressroom.

Progressive color proofs furnished by the engravers accompany the plates for pressroom guidance in making color. These color plates may be, in fact they generally are, prepared several days in advance of the press run, giving our pressmen time to check plates for register.

As we use no black in our process color, the black type page is made up regular size, sent to the Stereotype Dept. a few minutes earlier if possible and cold molded with any one of the color engravings on base in same spot as located for color molding. The wide variation in shrinkage of the two molding methods is compensated for by trimming the color mats closer to the type edge a predetermined amount so that the color will print in the spot or the place is routed out of the cold-mold black plates. To make the casting of the hot-molded mats easier and to prevent damage to our mats and equipment we have scraped our bolster support ring flush with the back of the box and on regular type page we back the bolster with 0.050 in. packing cut ⅛ in. wide.

This method enables us to use process color on Page 1 or any page carrying spot or late news as the only time lost for color is the routing of the two black plates—normally not more than 4 or 5 min. A local or national story and re-roll of the black page is a matter of no great concern, as you can readily see.

TTS Tape System in Small Paper

THE establishment and functions of a separate room for handling Teletypesetter tape on a non-metropolitan newspaper was described for the Great Lakes Newspaper Mechanical Conference at its recent meeting in Columbus, O., by Emory Ludwig, Machinist at the Sidney (O.) *Daily News*. With the aid of colored slides made by Cecil Watkins, Mechanical Supt. of the *News*, Ludwig showed each operation performed in the room as well as work simplification ideas established for use in handling TTS tape.

The Teletypesetter room is partitioned off from the composing room and is located at the front of the Linotype machines. In it are housed the tape perforators and reperforators in addition to several system boards placed on the walls where the tape is hung.

Each piece of copy received from the editorial room is punched at a clock at the time received. The copy is then placed in one of four wire baskets, depending whether it is daily copy, sports, society or for the first page. When these baskets are empty, the operators work on copy for special pages such as automobile, building, farm and school.

Each Story Handled Separately

The tape for each story at the *News* is handled separately. To prevent losing the short tapes for small stories, a special board, attached to the wall, is used. The board is numbered from 1 to 140 and contains a peg at each number. The board is cleared each morning to accommodate stories for that day's paper. Wire tape for story No. 1 is hung on peg No. 1 and so on. It remains on these pegs until the editorial room sends down the copy which corresponds to the tape.

At the right of this board is a similar board numbered from 1 to 37. This is used in the same manner to accommodate tape for serial stories. The tape remains on these pegs until the day the story runs.

Copy for special pages is received at anytime during the week. It is handled by the same procedure as other tape and the rolls hung on boards specially labeled for the page. When the Linotype ma-

chines are caught up on production for that day's paper, the type for the special pages is set.

Another board is used to accommodate wire tape that the editorial staff wants held until a later date. When this occurs, the editorial department must send a special card to the tape room with the information that the tape must be held until the copy is received.

The tape for all short stories at the *News* is spliced together beforehand to save time at the linecasting machines. The tape is cut off square and the first tape hole in one tape is aligned with the first hole in the other and attached with Quik-Stik paste.

Tape Roll Holder

Rather than carry a few rolls of TTS tape from the tape room to the linecasting machines at one time, a specially devised holder is used which Mr. Ludwig said will hold as many rolls of tape "as you could carry in five trips." It consists of a handle from an old magazine cleaning brush with the brush end sawed off on which are placed the tape rolls. A shield is attached to one end to prevent the rolls from sliding off.

At each Linotype machine is a special rack equipped with a number of pegs on which the rolls of tape are hung. This provides the operator with an organized system of handling tape for the machines. The back side of this rack is made into an open shelf arrangement which is used for the storage of lard oil, mold polish, etc., for the individual machine.

Copyholder Changed

Because the runner is usually on his feet while attending the tape, the copyholder is unhandy for monitoring in its normal location on the machine. Copyholders at the *News* are mounted up on the lower end of the magazine where it can easily be seen by the runner in a standing position. Its attached to the magazine by means of suction cups which are affixed to the holder by screws. It can be removed in a few seconds and returned to its normal location in the event an operator wishes to operate the machine manually.

Bulletin Board

A large bulletin board is maintained in the tape room for the benefit of the perforator operators. On it is placed an enlarged diagram of the Teletypesetter tape showing all the characters. It is situated so it can be easily viewed by any of the operators from their positions at the keyboard. Another chart on the board shows the keyboard arrangements which are different from the arrangement on the perforators. Other charts on the board show the number of units in each character and the style followed on church announcements.

Pressmen Discuss Color - Ink Mist

CHAIRMEN of the Pressroom Session were Frank Dassori, Pressroom Supt., Detroit *Times*, and Roy B. Schultz, Pressroom Supt. of the Milwaukee (Wis.) *Journal*. Three excellent papers were delivered as follows:

The first speaker was E. Curtis White, Pressroom Supt., Indianapolis (Ind.) *Star-News* who discussed *R.O.P. Color*. His address is printed on an accompanying page in this issue of *Printing Equipment Engineer*.

Ink Mist Control was the subject of the address by Joseph E. McMullen, Production Mgr., Milwaukee (Wis.) *Journal*. His address was illustrated with slides. The system for controlling ink mist in the *Journal* pressroom might be considered a pressroom filtered ventilating system.

Teletypesetter Tape Room and Tape Handling Devices at Sidney (O.) *Daily News*

1.—Here is shown the specially devised boards on which are hung the tape rolls for each individual story to be used in that day's edition. The board for incoming daily tape begins at the left with No. 1 and ends at No. 140 on the board in the background. A number appears at each nail designating the number of that particular story. The tape remains on these nail pegs until the editorial room sends down the copy which corresponds to the tape. The board in the right background, numbered from 1 to 37, is used in the same manner for the tape for serial stories which is received on the reperforators ahead of publication date. The tape remains on these pegs until the day the serial story runs.

2.—Copy received from the editorial room is placed in one of these wire baskets in the tape room. A separate basket is provided for copy for daily news, sports, society, front page, filler material, special pages, classified, etc. When the composing room is ready, the copy from these baskets is matched with the roll of tape from its proper nail peg on one of the boards and both are sent to the linecasting machines. The copy in the basket for local news is removed when the perforator operator is ready to punch the tape.

3.—At the operator's left can be seen the specially built rack designed to prevent damage to the multiface perforator's magazines. Conveniently located alongside the perforator it enables the operator to slide the magazines in and out when needed and provides a safe place for their storage. The six magazines in the rack and the one in the machine permit the perforation of 14 faces on the perforator by changing the counting mechanism.

4.—Operators at two Teletypesetter perforators punching tape to be used for the *Daily News'* special pages. The board in the background is where this tape is hung on hooks in its appropriate section. Copy for the special pages is received at anytime during the week and punched as the schedule permits. The board is divided into sections for auto, building, farm and school special pages, filler copy, and job work. When the Linotype machines are caught up on production for that day's paper, the type for the special pages is set.

5.—The bulletin board maintained in the tape room for the benefit of the perforator operators. The enlarged diagram of Teletypesetter tape shows the code information for all characters. It is situated so it can be easily viewed by the operators from their positions at the keyboards. Other information included on the board pertains to the keyboard layout, unit widths, perforator settings, style book and operators manual.

6.—Transfer of the tape rolls from the boards to the linecasting machines is done with this specially devised tape roll holder shown being used by the operator. It consists of a handle and rod from an old magazine cleaning brush with the brush end sawed off. The plywood shield at the handle end prevents the rolls from sliding over the operator's hand. It not only serves to keep the tape rolls in order, but permits carrying a number of rolls in one trip from the tape room to the linecasting machines.

7.—At each Teletypesetter operated Linotype in the composing room is a cabinet such as is shown here where the tape rolls may be hung before being placed on the machine. The copy hooks below the slanting top is where the copy is hung which corresponds to the tape. Copy is placed on the hook at the left in the same order as the tape is placed on the hooks. Finished copy is hung on the hook at the right. The cabinet was made from a shipping crate and plywood. It provides the operator with an organized system of handling tape for the machines. The small box protruding from the cabinet at the left serves as a recepticle for the clothes pins removed from the tape rolls.

8.—Rear view of the cabinet for tape rolls described in Fig. 7. It was designed in such a manner for the storage of lard oil, mold polish and other supplies frequently needed at the machine. It provides quick access to such items without making a trip to a supply cupboard. The tape recepticle at the right is a painted 100 lb. steel ink drum.

9.—Rack constructed for storage of metal pigs behind linecasting machines at the *Daily News* plant. It corrected the situation where formerly the metal pigs were stacked on the floor and collected dirt as well as consumed valuable floor space. The design of the rack also saves the operator from stooping over to lift a heavy pig as it is needed. The rack is made from ¾ in. galvanized iron pipe cut into 3 ft. lengths. It is attached to the floor with floor flanges. The hooks were made from large spikes which were bent with the aid of a bench vise. Holes were drilled in the top of the pipe and the hooks dropped through.

for the men on the press . . . profit

Here in this picture is the essence of printing. One man is filling the ink fountain. One man is clamping on a plate. Their job is to get that ink onto the paper—quickly, accurately. One of the things they need in a press, to get an accurate image, is an absolutely dependable relationship between cylinders. On a Harris press, the distance between cylinders is precisely machined into steel bearers. That mechanical certainty is part of a pressman's profit.

for the pressroom foreman . . . profit

A foreman is a man who manages men and machines. Nobody appreciates more than he, a machine that has had the "cussedness" engineered out of it. Ask him for his choice, and the chances are he'll ask for a Harris. He knows from long experience what makes production easier.

for the man who risks $$$ . . . profit

The man who invests his (or other people's) capital, looks for money-making equipment which is proved. That's why we sold this press. That's why we expect to sell a good many more. This new Model 245A, like every other Harris press, has been tried and proved on the American business scene—for its profit-making ability.

for the man on the street . . . profit

We can't think of a thing in the American economy that isn't either made, distributed or marketed with the help of printing. The more efficiently this is done, the more the man on the street profits. And so do all of us.

* * *

In America's economy, commercial printing profits everyone. Specifically, our part in it includes the design and manufacture of offset lithographic presses, rotary letterpresses, power paper cutters, paper drills, bindery equipment, litho-chemicals, and other fine graphic arts equipment. Consult Harris-Seybold in all principal cities, or at 4510 East 71st Street, Cleveland 5, Ohio.

HARRIS-SEYBOLD

HARRIS MODEL 245A TWO-COLOR 35 X 45" OFFSET LITHOGRAPHIC PRESS AT PARISH PRESS, INC., NEW YORK CITY • COLOR PHOTOGRAPH BY CORNELIUS

fine graphic arts equipment...for everybody's profit

Chairman Dassori then delivered an illustrated talk on *The Heister Ring* which was installed in the plant of the Detroit *Times* in September 1952. Mr. Dassori's address appears in this issue.

Splicing or Patching Ad Mats

Following the address of Mr. White, Charles Kirk, Stereotype Supt. of the Detroit *News*, discussed the trouble he was having with Lake Shore ad mats when it is necessary to splice new type into the mat, perhaps for a dealer's address or because some of the text in the type must be changed. He said that on the Detroit *News* plates are cast on Automatic Autoplate machines. After two or three casts, the splice in the mat pulls out. If 10 or 12 casts are needed, and to get them it is necessary to cast a considerable number of extra plates. He wanted to know what is being done to remedy the trouble.

Someone arose to state that upon application to Lake Shore Electrotype Div. of Electrographic Corp., mats of the same thickness for splicing purposes could be obtained upon request. Mr. Kirk asserted he still doesn't see how this could take care of Automatic Autoplate operation trouble. W. R. Coddington, Mechanical Supt. of the Des Moines (Ia.) *Register Tribune*, said Lake Shore would gladly supply the necessary changes in the mats for a paper if arrangements are made ahead of time so the type matter can be incorporated in the original mat. Donald B. Lytle, Lake Shore Electrotype representative stated his firm is working on the difficulty and said he needed the help of all the technical men present in the room. His firm is anxious to have a method to avoid the difficulty mentioned by Mr. Kirk. In concluding he recommended that newspapers send logos direct to Lake Shore so as to avoid patching of the mats after they reach the newspaper plant.

Ink Mist Removal

Following the address of Joseph E. McMullen and in answer to a question, Mr. McMullen stated that he is interested in further improving the ink mist removal method in use at the Milwaukee *Journal*. In answer to another question, he stated the *Journal* does not reclaim any of the air ejected from the pressroom. Roy Coates, Pressroom Supt. of the Grand Rapids (Mich.) *Press*, stated that his firm recently had installed a pressroom ink mist removal system. The air is brought in from the outside and is heated. He said that so far the system had proved to be very satisfactory. His concluding remarks were: "The boys who wear glasses previously had to wash them 10 or 12 times when setting color and during the press run. Since installation of the ink mist removal system, it is only necessary to wash their glasses once during a run.

Please take a look at your address on the wrapper in which *Printing Equipment Engineer* is sent to you at your place of employment. If it isn't correct, please tell us about it on a postcard.

What's Involved In Changing To 9 Col. Page?

(The following is abstracted from a talk given by Cecil Watkins, Mechanical Supt., Sidney (O.) Daily News, entitled What Can the 11.6 Col. Width Mean to Non-Metropolitan Papers, *before the Great Lakes Newspaper Mechanical Conference, Columbus, O., January 1953.*

SINCE the standard column width has been officially reduced from 12 picas to 11 picas, 6 pts., just what does this change mean to the non-metropolitan newspapers. Below is a table of the new measure for one column and multiple columns:

Columns	Picas		Points
1	11	and	6
2	23	and	3
3	35	and	
4	46	and	9
5	58	and	6
6	70	and	3
7	82	and	
8	93	and	9

All of the multiple column widths are based on the use of 3 pt. column rule.

The purpose of the new width was to enable the continued use of narrower paper widths but eliminate excessive shrinkage.

We are aware of the fact that the larger papers made quite a savings in using high shrinkage; narrow column rule, preshrink setups, etc., that resulted in many cases several inches less on the roll widths. We are also aware of the fact that in all probability the larger papers will continue to use the high shrink and go to even narrower paper widths.

In my opinion, this would defeat the original purpose back of the new standard column width of 11.6. The narrower column widths were established to eliminate the excessive shrink and do away with some of the reasons given for "poor printing." Should the higher shrink be maintained then the advertising agencies in all probability will have the same "beef." However, it will be possible to cut a little more off the roll widths.

The Canadian paper mills are now charging a premium price for newsprint since their equipment is the same as that formerly used to make 70 in. roll. When 66 in. rolls are ordered, the mill still makes the same roll as previously but must trim off and throw back into the vat and reprocess the extra 4 in. or more per double width rolls. This operation contributes materially to the present high price of newsprint.

The 9 Col. Page

Why not go to a 9 col. page format? This will bring about a 12½ percent savings to your paper at a minimum of expense. The Sidney (O.) *Daily News* has been studying the possibility and are sold on the 9 col. format.

By using the 9 col. format the overall page width would be 105½ picas. This is accomplished by using the 11.6 column width and the 3 pt. column rule. By employing a ¾ in. side shrink, the printing face of the page would be 101 picas. A 17½ in. per page paper width will give 2 picas of margin on either side of the printed page.

We print on a single width Goss Unitube Press so our paper rolls would be 17½ in. dinks and 35 in. for full width rolls. On double width presses a maximum of 70 in. rolls would be required. Should we want greater space between pages, a higher shrink would accomplish that but we feel that 2 picas per page is sufficient.

However, if you have purchased a new press in the past five years you may run into trouble and must depend on your only savings being on staying at the 8 col. format and savings on newsprint only.

Mechanical Changes

When you adopt the 11.6 pica column, irrespective of whether or not you plan the 9 col. format, there will be the customary liner changes, ejector blade alterations, mold cap rib shifting, and point filling piece block attachments for the linecasting machines and also the use of the proper heighth of 3 pt. column rule.

Also, if you are using TTS. tape it will be necessary to get the majority of the newspapers on the circuit to to the 11.6 col. width. The news service will have to cut the 118.1 count matrices to set on a 11.6 slug. If the majority of the newspapers on your wire circuit are not ready to change to the standard column width, it will be necessary for you to purchase unit font matrices with a 113.2 alphabetical length.

Also provisions must be made for casting or making 3 pt. column rule of the proper heighth if you do not already have that available. If you change your shrinkage, a chart must be worked out.

Other Changes

You may have to do some machine work on your chases or even buy new ones that will take 105½ picas in width and still have proper bolster. Your curved casting box may have to go through some changes, likewise your finishing machine.

Also new press blankets may be required, lock up clips will have to be changed and it may be necessary to purchase wider ink rollers. The nipper rolls in the folder will probably need altering and narrower center trolleys may be needed.

Before Making Change

There are several things that should be studied before any changes are made that will cause your paper to take on a different appearance. Some of the most important ones are: readability, setability, appearance and savings.

The narrower column setting is easier and faster to read. Eye doctors are of the

opinion that on the shorter lines the eyes have a shorter distance to travel to get to the line and when shifting back to start the next line, there is a rest period. As a result of the shorter lines, those rest periods are slightly closer together cutting down on eye strain. The 9 col. also appears more uniform and better balanced.

In resetting a page for 9 col. format, there was no loss in editorial matter and the advertisements were of the same

depth as the 8 col. page. It is interesting also, to note that there was no increase in letterspaced lines when going to 11.6 col. width and that none of the headlines were rewritten. Only one headletter line was too tight to allow space between words.

It was necessary to eliminate the folio on the top of the page in order to get a little more length to allow for the ¾ in. shrink and still end up with a 21 in. chargeable column length. Our former shrink was ⅜ in. We have accomplished the 21 in. column length and still have room for an 8 pt. date line above page length ads.

Gains 21 Col. in. on Page

We have added 21 col. in. to each page. That is a 12½ per cent increase. We have widened the sheet, which is two printed pages, by ½ in. so we have only increased our paper cost per page 1/68 but in so doing have increased our potential income off each of the two pages by ¼.

In other words, we have increased our printing area 42 col. in. per page-wide sheet but have only increased our paper stock ¼ in. per page-wide stock. This may sound confusing but we must realize that we print on both sides of the stock and in so doing gain double in comparison.

Looking at it from another angle, should your business not show any increase in the future but remain the same as it has been, the 9 col. page would not gain any additional revenue for you but would permit you to carry the same amount of advertising and editorial copy in far less pages which is a savings in production costs.

A 16 page press can be increased one-eighth by changing to the 9 col. format. Instead of a 16 page press at 8 col. per page or a total of 128 columns you will have a 16 page press at 9 col. per page or a total of 144 col. The press has become a maximum 18 page 8 col. press instead of a regular 16 page 8 col. press.

Suppose for comparison, under the 8 column format due to heavy editorial copy that the news room says must be used and a normal flow of advertising copy your next edition is laid out for 28 pages. It would be possible to drop to 26 pages with the 9 col. format and gain 10 columns of editorial copy but still run two less pages that would have been necessary had you been using the 8 col. format and going 28 pages.

For another comparison, suppose your advertising copy is running heavy due to a special advertising promotion but your news room has failed to furnish you with sufficient news copy to fill the 28 pages using the 8 col. format. Then it would be possible to drop to 24 pages under the 9 column format and lose only 8 columns of reading matter.

It is possible to place a full length 5 col. ad and a 4 col. by 15 in. ad on the same page and still have ample editorial copy to make the ads valuable to the clients. This is not possible when using the 8 col. format.

Eliminate Double Runs

The above mentioned situation might come up in some shops that have three 8-page units. Here, it would be possible to cut the proposed 28 pages, 8 column format to 24 pages, 9 column format and make a straight run instead of collect. This provides full production out of the press instead of half production and at the same time simplifies the make-up and ink setting. Many double runs could be eliminated by changing from the 8 col. to the 9 column format.

In many instances, regardless of press capacity, it would help out on manpower shortage or cut down on overtime in the pressroom since additional advertising and editorial copy is carried without increasing the number of press units operated. Also there is a substantial savings both in mat molding and casting costs since many less pages will be required with a 9 col. format than with the 8 col. page.

For example, our study reveals a saving of 624 pages a year for a non-metropolitan newspaper with a circulation of 12,000 and an average of 118 8 col, pages per week and in so doing still would carry 520 more columns of ads or editorial copy for its readers. In addition to the above saving, at the present price of newsprint, a sum of $5,785.42 would be realized from the difference in newsprint consumed using the 9 col. page format in comparison with the conventional 8 col. page makeup.

Color Printing Unit

G. Leslie Shehorn of Mt. Vernon, Ill., by means of an illustrated talk, described what was scheduled on the printed program as *New, Inexpensive Color Unit for Tabular Presses*. An Illustrated description appears elsewhere in this issue.

High Shrinkage— Let's Make It Work

JACK E. INNIS, Stereotype Supt. of the Indianapolis (Ind.) *Star-News*, and George H. Fuller, Stereotype Supt. of the Cleveland *Press*, served jointly as chairman and co-chairman.

The first address was entitled *High Shrinkage*, and was delivered by Charles M. Kirk, Stereotype Supt., Detroit *News*. The next speaker was C. M. (Larry) Flint, Research Director of the American Newspaper Publishers Association whose subject was *Stereotype Research*. The concluding speaker was Royal Rager, Stereotype Supt., South Bend (Ind.) *Tribune*, who discussed the *Tribune's* method of making plates and printing *ROP Color*.

To indicate that the problem incidental to the general introduction of high shrinkage of stereotype mats in newspapers is being given considerable study, Mr. Kirk quoted from a number of technicians who have or are currently working with high shrink problems. Amond these are Ferd Mier, Stereotype Supt. of the Detroit *Free Press*; Henry Messina, Mechanical Supt. of the Los Angeles *Herald-Express*; Leslie J. Griner, Production Mgr., Detroit *Free Press*; George H. Fuller, Stereotype Supt. and W. F. Alexander, Photoengraving Supt. of the Cleveland *Press*; and the ANPA Research Laboratory through publication of Technical Bulletin No. 8 entitled *Reproduction Quality of Stereotype Mats*, which was prepared by F. J. Stanczak.

He mentioned the recommended standardization of 11½ pica column width by the American Newspaper Publishers Association, and the use of the Heister Ring in stereotype casting boxes.

During the introductory part of his discussion, Mr. Kirk said: "It is evident the publisher is going to save newsprint consumption by whatever means is available. As the result, everybody must do his part to print as good a paper as possible."

Equipment Maintenance

With respect to maintenance of stereotype equipment, Kirk said proper adjustment of platemaking equipment in connection with high shrink mats is of utmost importance. In particular, those plants using Evenray mat driers should see that the reflectors and bulbs are cleaned regularly. Sta-Hi mat forming machine temperatures should be checked once a week with a Pyrocon surface pyrometer. At the *News*, the Sta-Hi base is maintained at 390 deg. F. while the chamber temperature is maintained at approx. 90 deg. F. less.

If the mat is dried too quickly with high temperatures the printing surface of the plate will be definitely affected. Drying with extremely high temperatures causes distortion of the mat, concaved surfaces, etc. The mat will not form properly to the back of the casting box, thereby causing low printing areas and more porosity on the face of the plate.

Mr. Kirk explained that high shrinkage (1 in.) has been used at the Detroit *News* since 1944. "If handled properly," said he, "we believe we can print as well as we did with 5/8 in. shrinkage."

He said the mat is placed in the Evenray drier for 1 min. to obtain from 5/16 in. to 3/8 in. shrinkage. This permits the mat to remain soft enough so it will form well in the Sta-Hi, free from buckles and concaves. This shrinkage is enough to prevent the packing from slipping when the rest of the shrinkage takes place in the Sta-Hi.

"After packing," he continued, "the mat goes into the Sta-Hi for 2 min. and from 15 sec. to 20 sec., making 45 sec. on pre-shrink and 1 min. and 30 sec. to 35 sec. with 5 in. of vacuum. This time and the temperatures will dry the mat thoroughly without creating an excessive amount of steam to cause loss of depth in the mold. We use 2 in. of vacuum on the 45 sec. pre-shrink in the Sta-Hi and never allow the mat to get the full jolt of the 5 in. of vacuum before it is partly dried. Thus when the mat is placed in the lid or chamber of the Sta-Hi the lever controlling the vacuum is pulled partly out before the lid is closed. After closing the lid the lever is adjusted to allow 2 in. vacuum for the first 45 sec. Too much vacuum while the mat still is in the soft stage will also cause loss of depth and pull down the spaces."

Erwin Giannoni, Stereotype Supt. of the Chicago *Tribune*, explained that at the present time the *Tribune* is not operating with high shrinkage mats. He said that it is customary to use plenty of time in the *Tribune's* 10 Sta-Hi machines to the extent of 3 1/2 min. with a 45 sec. pre-shrink operation. He commented that "The lower you can keep the heat in forming the mat, the better you can hold the surface of the plate."

Standardization of Procedures

Ferd Mier, Stereotype Supt., the Detroit *Free Press*, spoke briefly about high shrinkage stereotype mats and expressed the wish that possibly some standardization can be established with respect to procedures in the stereotype department. He said that when a newspaper goes up to 1 1/16 in. shrinkage the mat is an entirely different piece of paper than one formulated for 5/8 in. or 13/16 in. shrinkage. Of necessity, the forming time will have to be increased to eliminate moisture in the mat, since entirely different processing methods must be employed.

Barclay A. Smith, Stereotype Supt., Battle Creek (Mich.) *Enquirer* and *News*, mentioned there is a variation in the moisture content of the same brand of mats from case to case. He advised that it is necessary to watch this variation in moisture content and that the stereotyper should be ingenuous enough to help himself and manipulate the mats accordingly.

In the ensuing discussion from the floor and the speakers' platform, Jack Innis, Stereotype Supt. of Indianapolis Newspapers, Inc., interjected the thought that some problems of the larger plants are solved in smaller plants.

Eliminating Excessive Shrinkage

Mr. Kirk arose to state that manufacturers do not control mat shrinkage entirely. At the Detroit *News*, new mats are put in the Evenray preshrinker for as much from a 10 sec. to a 30 sec. period before being molded. In this way, Mr. Kirk avoids the necessity for changing the timing periods in the drier. The new mats are dehydrated between editions and during spare time. This plan of moisture removal before molding mats has helped greatly in eliminating excessive shrinkage during normal production time.

Molding Combination

Blanchard (Skipper) Wilson, Stereotype Supt. of the Cleveland *News*, discussed high shrinkage and feels that an excellent job can be done in producing printable plates. He explained the molding combination in use in the stereotype department of the *News* as follows: One sheet of Kraft paper, 0.092 in. thick deep molding blanket, 1/8 in. cork, 0.062 in. red board and 0.032 in. fibre board. He explained that this molding combination will give 1/16 in. tuck-in.

H. H. Higgins, Composing Room Supt., Detroit *News*, wanted some comment upon type "breakage". George H. Fuller, Stereotype Supt., Cleveland *Press*, said the only answer is that if the composing room will make good form material it will hold up in the stereotype room.

In connection with the 11.6 column recently recommended for standardization by the ANPA, Mr. Kirk stated that apparently one agency had been misinformed with respect to the purposes of the narrower column. He quoted the agency executive as saying that the ad mat being sent had been molded on 11 1/2 pica basis to eliminate shrinkage and secure better reproduction.

Leon A. Link, Production Mgr., Cleveland *Plain Dealer*, arose to state that since he had come to Columbus and had talked to a number of the executives present, he got the impression that many papers are converting to 11.6 column to obtain wider margins in the web so as to keep the trolleys off the paper in the press.

Ferd Mier was again called to speak before the group. He stated that the *Free Press* soon would go to 11.6 column and print from 62 in. paper. The plate across the surface will measure 14 3/4 in. with 13/16 in. shrinkage. His main concern, he said, is what will be the condition of the surface of the plate which the pressmen must print from. He said that by taking 11/16 in. out of the page in the composing room, he doesn't think he will see any change in print. He made it clear that the stereotyping process is not at the point where anyone can stop trying to improve it. At the moment no newspaper is printed as well as it should be. He again stressed the desirability of establishing standardization of equipment and materials. In mentioning that 1000 plates are cast daily at the *Free Press*, the only difference between the large and the small plant is that the large plant produces a greater quantity but standardization of operation will bring like results to both the large and the small plants.

He concluded his remarks by saying: "All of the improvement cannot be done in the stereotype department—we must have the cooperation of the pressroom."

In response to a question, J. Terrance Mahan, Stereotype Supt. of the Akron (O.) *Beacon-Journal*, explained that the Kraft paper in the molding combination is used to keep moisture from the cork blanket. In response to further question, Mr. Wilson explained that corks in the plant of the Cleveland *News* are not rotated. However, on every six or seven mats, the deep molds are alternated. The deep mold blanket absorbs moisture. With respect to the handling of the cork part of the molding combination, Wilson said the cork is turned over end for end after each mold has been taken.

Stereo Research

C. M. (Larry) Flint, ANPA Research Director, addressed the meeting. In part, he said that research is concerned only with obtaining "facts which are presented for you if you newspaper executives want them." As he has explained many times before, Flint said research in itself is no miracle. It is a process of long and arduous investigation It is also a process of evolution rather than revolution He told the stereotype executives present that their job is becoming tougher and tougher, and it is a purpose of ANPA Research to help them.

Among the top three desired projects expressed by printing executives in returned questionnaires sent out by ANPA, was one related to the packing of mats and the problem of loss in reproduction. He said that 25% of the total money and time in the laboratory has been spent in study of stereotype reproduction quality.

He related that he had brought back from the San Francisco ANPA Mechanical Conference last June the impression that research still hasn't put its finger on exactly what stereotyping executives would like to have solved.

Informally, he discussed the ANPA Research Department's Technical Report No. 8. He said this report was concerned with the prevalent belief that high shrinkage produces distortion and that there is too much loss of depth in high shrinkage.

He said the next study to be undertaken by the research laboratory was that of a study on molding quality with respect to increased moisture content in the mat.

Mr. Flint explained that the Easton Laboratory, among other fine instruments, uses a Bausch & Lomb biological microscope. This instrument focuses from the bottom and the top in relation to the depth of a printing plate or mat. Flint explained it is not an easy matter to find an instrument which is exactly suitable for measuring the depth of mold in the mat. He did say, however, that someone in the laboratory came up with an idea which will be developed for this purpose.

(*Continued on Page 54*)

Pressure Distribution in Letterpress Printing

By LENNART PIHL, Research Supt., and INGEMAR OLSSON, Research Engineer in Charge of Paper and Printing

The Graphic Arts Research Laboratory, Stockholm, Sweden. Prepared for publication with the aid of George N. Sandor, Chief Engineer, Springdale Laboratories Div. of Time, Inc., Springdale, Conn.

A QUESTION often discussed is how to place letterpress printing on a scientific basis. Many people have studied this problem. For instance, the mechanism of letterpress printing has been studied by Letouzey[1] and he has developed a method of makeready with the aid of a special cylinder packing and by varying the type height according to the printing density of the type character. The scope of his process has been shown in a report by Harrison[2]. The principles of the Letouzey method have been discussed in several papers, the latest of which was presented at the First International Conference of Printing Research Institutes in November 1951. The scope of the process is probably well known. At the Graphic Arts Research Laboratory in Sweden, G. Carlsson[3,4] has studied the deformation of different cylinder packings with different type-characters and different printing pressures. G. Croney[5,6] has made the same investigations at Patra. The results of their work show that the deformation of the same cylinder packing depends on the magnitude of the printing pressure in relation to the area of the printing element. A higher pressure per unit area is necessary to obtain a certain compression of a cylinder packing for smaller printing elements than for larger ones.

The contact pressure on a cylindrical printing surface varies at different points when forcing it into the packing. At the edge of the printing element the pressure is very high. The contact pressure between a cylindrical solid body and a semi-elastic medium has been studied by Sneddon[7]. His work proved that it is not possible to obtain a uniform contact pressure against a flat-ended cylindrical punch, when this is forced into a semi-elastic medium such as a cylinder packing.

When the press cylinder passes a flat printing surface, a pressure will arise in the nip between the packing and the form caused by the deformation of the former. The pressure distribution in the band of contact depends on the elastic properties of the packing, thickness, type height, printing speed, etc. In order to deal with the dynamic phenomena at the moment of impression one must suppose that the cylinder is not raised from the bearers at the moment of impression. If such is the case, the printing pressure depends only on the deformation and the properties of the cylinder packing and the area of the printing element.

The largest area at the moment of printing that will print cannot exceed the pressure zone. Consequently it is only interesting to study the printing pressure against type characters smaller than this band of contact.

Fig. 1.—The letterpress printing machine and the electronic instruments.

Pressure Determination

In order to make it possible to register the pressure against different printing surfaces strain gauges were used. Pressure sensitive elements consisting of strain gauges fixed on steel beams were placed in the form. The printing pressure against a printing element on the beam passing the contact zone was registered with the aid of a dynamic measuring bridge connected to an oscilloscope. The pressure obtained as a function of the time of contact was made visible on the screen of the oscilloscope. The track was photographically recorded and the printing pressure studied for different sizes of printing elements at different printing speeds. With these instruments total impression pressures up to a value of about 50 kg. could be registered. The shortest time of contact was about 1/1000 sec. The instruments and the letterpress printing press used in the experiments are shown in Fig. 1.

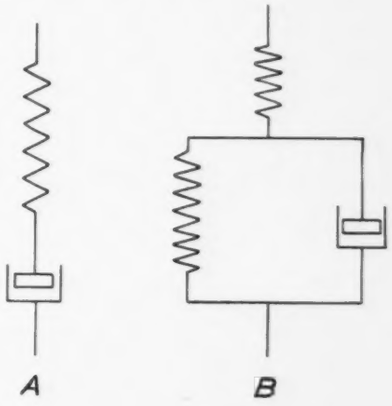


Fig. 2.—Visco-elastic properties of a material may be illustrated by springs and dashpots combined in units.

A cylinder packing is generally built up of several sheets of paper such as manila, book paper and newsprint. However, in recent years several other sheet materials were also developed. Some of these interesting new materials are the Spherekote packing and certain rubber laminated papers. The fact that these new materials were developed shows that the need was recognized to find packing materials better than the ordinary paper packing. The main purpose of the packing is to level out the pressure over the form.

Packing Behavior

At the moment of printing the type character is forced into the topsheet and the latter is compressed causing a pressure to arise on the type. When the type has passed beyond the center of the impression area, the packing expands and regains its original shape. This shows the elastic properties of the covering. Gen-

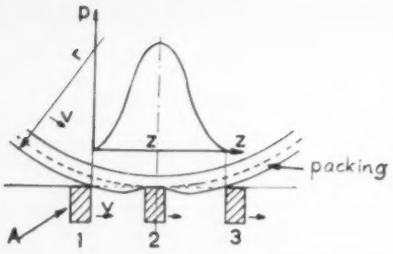


Fig. 3.—When a small printing surface *A* is passing the pressure zone at a speed *v* in a printing press, the pressure against the surface increases and has its maximum value at the point where the center of the printing surface is directly below or perhaps just ahead of the center of the cylinder axis.

erally, however, the packing does not exactly attain its original shape between successive impressions. This is caused by a viscous rather than purely elastic deformation. The material follows the laws governing visco-elastic bodies. The elastic deformation of a body may not be dependent on time, but viscous flow is. The visco-elastic properties of a material may be visualized and are often illustrated by springs and dashpots combined in units in accordance with the theories of Maxwell or Voigt as shown in Fig. 2

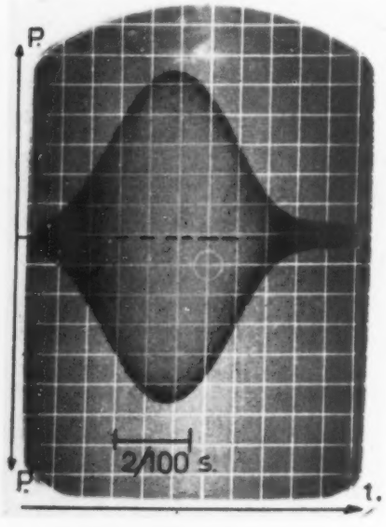


Fig. 4.—The pressure curves in this oscillogram were registered with the aid of the electronic instruments shown in Fig. 1.

The springs symbolize the elastic and the dashpots the flow properties of the material. The displacement of the piston in the dashpot depends on the viscosity of the fluid in it and the duration of force application. The springs, however, react immediately to external forces. These properties of the packing material are very important to its ability to withstand the stresses and strains occurring at the moment of printing. Since the pressure against the printing element is dependent on the visco-elastic properties of the material, it is obvious that it is a very complex function of several variables. In order to develop better cylinder packings, it is essential to know a little more about the general laws for the pressure distribution in the nip. An investigation of this problem has to deal with the pressure as a dependent variable and study this as a function of the independent variables, such as printing speeds, packing materials, size and height of printing elements, etc.

Pressure Phenomenon

From Fig. 3 it is evident that when a small printing surface A is passing the pressure zone at a speed v, the pressure against the surface increases and has its maximum value at the point where the center of the printing surface is directly below or perhaps just ahead of the center of the cylinder axis. When the surface has passed this point the printing pressure will decrease. The breadth of the band of contact $\widetilde{z}$ (the pressure zone) depends on the diameter of the cylinder, the thickness of the packing and the height of the type. The pressure against the type is determined by the hardness and compression of the covering and the size of the area of the printing surface. In later paragraphs we only intend to discuss the case when the printing surface, rectangular in shape, is oriented with one side parallel with the direction of printing and when the length of the printing element in the direction of printing is smaller than the pressure zone. The band of contact $\widetilde{z}$ generally does not exceed 15 mm. for most presses.

It is not possible to obtain an elastic material the properties of which are such as to wholly enclose a body when this is forced into it. This effect can only be obtained by liquids. In the elastic material, shearing stresses will occur, which are mainly dependent on the material, on the depth of penetration and on the shape of the element. The pressure per unit area acting on a small surface will by these reasons be greater than on a larger one. At the moment of printing the cylinder packing is rapidly compressed. The amount of work performed by the type character during the short time period of compression is regained when the covering expands after impression. If the entire amount of work of deformation is regained at expansion, the packings show ideal elastic properties. If this is not the case loss of work has occurred.

The pressure curves were registered with the aid of the electronic instruments just mentioned and the pressure was recorded as function of time. Such a recorded oscillogram is shown in Fig. 4.

By integrating the areas subtended by the pressure curves the difference between compression and expansion work was studied for various printing speeds. The difference observed was rather small and difficult to determine accurately because of the mechanical imperfections of the press. The work of compression per unit of time seems to be practically a linear function of the printing speed.

Effect of the Size of Printing Element on Printing Pressures at Different Printing Speeds

In one of our experiments rectangular printing surfaces with different lengths in the printing direction but with the same widths were printed when a paper packing was used. Two different printing speeds (v) were used. The maximum printing pressure was calculated from the photos obtained. Some of the results from these experiments are shown in Table I. Analysis of the figures in Table I shows that the area of the printing element influences the maximum printing pressure. If the total printing pressure and the printing pressure per unit area are plotted against the length of the printing element the graphs in Fig. 5 are obtained. It is to be observed that the construction of the graphs in Fig. 5 is based on values obtained in other experiments not presented in Table I.

As shown by Fig. 5, the pressure per square cm. increases for smaller printing elements. This is explained by the fact that a printing element compresses a larger area of the packing than corresponds to its size. This effect is also enlarged by the curved shape of the cylinder packing.

Ink Lowers Pressure Value

Other investigations were performed in order to study if a viscous medium such as ink on the printing surface has any influence on the magnitude of the printing pressure. Significantly, it was found that

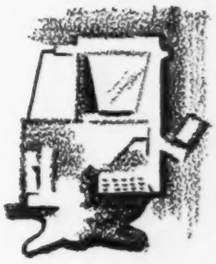
TABLE I.

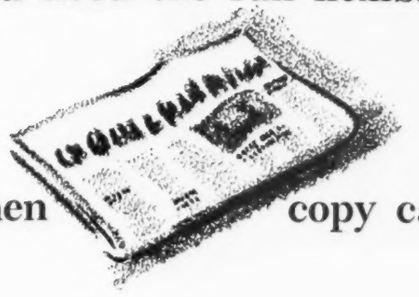
PRINTING SPEED	v_1			v_2		
Length of Printing Element	l_1	l_2	l_3	l_1	l_2	l_3
Experiment No. 1	56,0*	80,5	102,0	59,0	85,0	108,0
Experiment No. 2	55,5	68,0	104,0	60,0	83,0	105,5
Experiment No. 3	52,5	51,0	83,0	54,5	52,0	92,5
Experiment No. 4	52,5	51,0	90,0	52,5	52,0	92,5
Totals	216,5	250,5	379,0	226,0	272,0	398,5

$l_1 = 1{,}5$ mm
$l_2 = 2{,}5$ mm
$l_3 = 5{,}0$ mm

$v_1 = 1{,}4$ m/s
$v_2 = 3{,}1$ m/s

*Amplitude on oscillogram, mm
10 mm = 4 kg.

You need the full flexibility of Model 31  Linotypes

when  copy calls for faces from 5 through 18 point,

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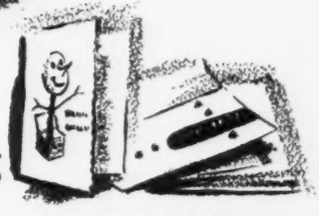
variety of composition for printing  It's all in a

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TABLE II.

	D_1						D_2						D_3					
	V_1			V_2			V_1			V_2			V_1			V_2		
	T_1	T_2	T_3	T_1	T_2	T_3	T_1	T_2	T_3	T_1	T_2	T_3	T_1	T_2	T_3	T_1	T_2	T_3
B_1	4.8*	5,4	6,6	4,6	5,6	6,4	5,6	5,6	7,6	5,0	5,4	6,8	3,6	4,4	5,0	3,6	4,4	5,4
B_2	2,9	3,2	3,6	2,8	3,1	3,8	3,2	3,6	4,1	2,7	3,2	3,7	2,4	2,7	3,2	2,1	2,5	3,2
B_3	2,4	2,5	3,0	2,1	2,4	2,9	2,5	2,9	3,3	2,1	2,3	3,0	1,7	2,1	2,7	1,8	2,2	2,7

Paper	Height	Width	Speed
D_1 = Brush coated	T_1 = 0,05 mm.	B_1 = 0,5 mm.	V_1 = 1,4 m/s
D_2 = Supercalendered	T_2 = 0,10 mm.	B_2 = 1,0 mm.	V_2 = 3,0 m/s
D_3 = Newsprint	T_3 = 0,15 mm.	B_3 = 1,5 mm.	

*Z = Ratio of compressed zone to width of printing element.

lower pressure values were registered when ink was present as a lubricating medium on the printing surface. This effect was more significant at higher pressure values. This is explained by the fact that the friction between the paper and the type-character is decreased by the presence of a lubricant such as ink. The lubricating properties allow the paper to stretch under the printing element which is probably one of the causes of edge formation around the type-characters or halftone dots in letterpress printing, another cause being that the ink is squeezed out from under the printing element. As a result of these experiments it was evident that a thin rule line or a small printing element causes a higher pressure per unit area than a larger one.

The investigation shown in Table I was performed at two printing speeds. These experiments revealed the tendency that increasing printing speed causes a higher printing pressure. Later experiments confirmed this. The variations of printing pressure at different lengths of the printing surface across the direction of printing was then studied as well as the pressure distribution when the distance between two printing elements was changed. The experiments proved that, for instance, a dotted rule line causes the same total pressure as a solid rule line of the same width and overall length. This

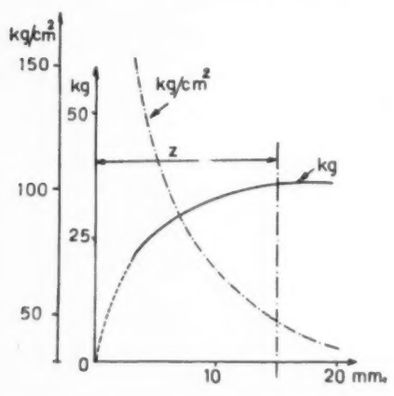

Fig. 5.—The pressure and the pressure per cm² for different lengths of the printing element.

fact causes a very high printing pressure per square cm. on the dotted rule. A variation in overall length of the element seems practically to have a linear effect on the total pressure. However, this relationship does not exactly apply in case of very small printing elements. It has earlier been stated that a larger area of the packing is compressed than corresponds to the area of the printing element. This explains the lack of linearity for small printing elements. The compression of the paper being printed on was also investigated separately and will be discussed in the following paragraphs.

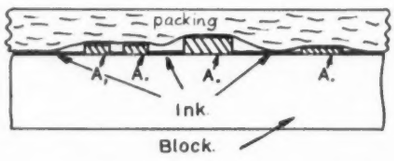

Fig. 6.—A type high printing block was inked with a thin ink film. Thickness of press packing was adjusted to desired printing pressure. Different height and width metal strips were placed on the inked block. The prints showed how the strips influenced the zone around the printing surfaces.

A type high printing block was inked with a thin ink film and the thickness of the packing was adjusted to the desired printing pressure. Metal strips of different heights and widths were placed on the inked block. By studying the prints it was thus possible to observe how the strips influence the zone around the printing surfaces. As shown in Fig. 6, the compressed areas around the edges of the strips will not take up any ink from the block. If different kinds of paper are printed from such an inked block, the size of the unprinted areas will show how the compressed zone depends on the height and width of the printing surface for various papers. It is easy to measure this zone with good accuracy from the prints. In an investigation we studied how different variables influence this zone around the printing surface. The independent variables were printing speed, the height and width of the type (metal strips) and different kinds of paper. The ratio (Z) of the compressed zone to the width of the printing element is shown in Table II.

The accuracy of the measurements was satisfactory. An analysis of the values in Table II shows the existence of an interaction between kind of paper, type height and width of the printing surface. This necessitated a separate study of each variable. A variation in type height had the greatest influence on the ratio (Z). The ratios are consistently larger for small elements, but the quality of paper has a significant influence. Supercalandered papers show a larger compressed zone around the printing surface than for instance brush coated paper. For the same element, increased speed causes a greater compressed zone.

Pressure Distribution Affected By Paper

From the experiments above it was also proved that if the properties of the packing are constant, the pressure distribution is in a high degree influenced by the paper just printed. If the paper is stiff or hard, that is, if the work of deformation in compressing the paper is high, the compressed zone will be larger around each individual printing element.

From the experiments as well as from theoretical discussions it must be expected that it is impossible in any easy way to level out the pressure between different printing elements such as halftone dots. The pressure distribution depends on very complex variables, and the pressure interacts with the paper being printed. It will then not be possible to find a packing which will give a uniform pressure distribution, because only gases and liquids may show such ideal elastic properties.

Overlay Preferable

When printing the shadow areas of a halftone block, the printing pressure per unit area will naturally be lower than for the light tone values. This causes the need to level out the pressure by the use of underlay or overlay. (Underlay is placed under the plate, overlay under the topsheet of the packing.) Overlay

seems to be preferable, since by this method the shearing forces in the packing are constant if all elements in the form are of the same correct type height. There is, however, a considerable difference between printing halftone blocks and types because of the small distances between the halftone dots in a block and the larger distances between type characters. In the first case the pressure zones around the dots interfere with each other to a greater degree than in the case of type characters. This explains why it is possible to print type forms without makeready and why it is more difficult to print halftone blocks without any makeready.

Main Factors in Increasing Quality and Faster Printing

Mechanical accuracy in presses and exact height of the type material will be the main factors to increase quality and run presses faster. A better cylinder packing would do little towards leveling out the pressure on the form, since the paper being printed has a very large influence on the properties of the combined layer consisting of paper and packing. The use of rubber or other elastic printing forms may be an answer, although elastic printing forms do not show uniform pressure distribution either.

Summary

The pressure distribution has been studied at the moment of printing for different printing elements at different printing conditions. The compressed area of the packing has been studied. The experiments have proved that the pressure against a printing element depends very much on its size and its distance from other printing elements. This causes the shadow areas of a halftone block to carry lower pressure per unit area than light tone values. It is therefore essential to use underlay or overlay to level out the pressure when printing halftone plates. The paper being printed influences the pressure distribution very much and this is why it is difficult to find an ideal cylinder packing. Printing from elastic forms may be a method of decreasing the time of makeready in single color letterpress printing. However, due to the well known difficulties involved in trying to use elastic materials for multicolor printing forms, this method is not recommended. Thus, to decrease the time of makeready for multicolor printing the mechanical precision of the presses must be improved, and the height of the type character must be controlled to a constant value.

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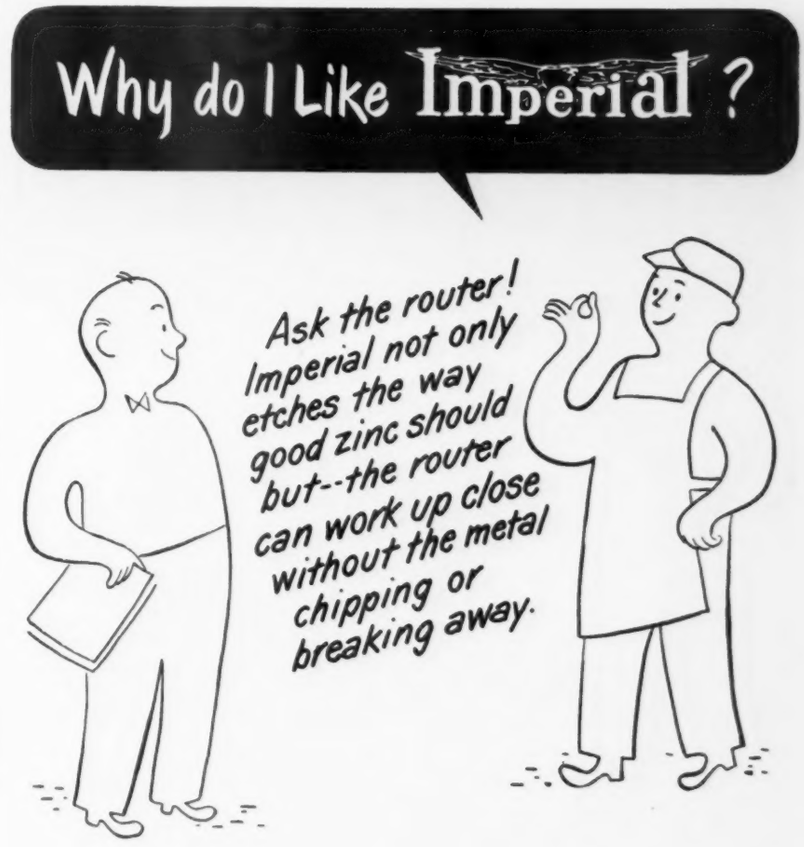
MMM Expands Research

The purchase of a 125 A. tract in St. Paul, Minn., for a long-range building program for research purposes was announced recently by Minnesota Mining & Mfg. Co. Plans call for housing many of the firm's major research projects on the tract. The first unit in the multi-million dollar development will be a $3 million laboratory for the company's central research department. It will be completed in the fall of 1954, William L. McKnight, MMM Board Chairman said. This department is responsible for the more fundamental and longer term MMM research projects. It explores new fields of science for possible application to established MMM products.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Paper Distributor

Paper Manufacturers Co. has announced the appointment of Paper Merchants, Inc., Toledo, O., as exclusive distributor of Perfection Flat Gummed Paper in the area which it serves.

Forms New Company

Universal Match Corp. has announced the formation of Unitronics, Inc., which supersedes Precision Engraving Co. as a wholly-owned subsidiary of Universal Match. Officials of the newly formed company are Theodore Hommel, Vice Pres. in Charge of Sales and General Mgr., and Philip Gilbert, Vice Pres. in Charge of Engineering and Production. Unitronics will manufacture the Essar and Totalume electronic light integrating instruments. It also will introduce other industrial electronic equipment during 1953, such as predetermining batch counters and totalizers. The company is distributor for American Optical's Gravure Microscope and Spectrophotometer.

Hommel is also Director of Graphic Arts Research and Development for the parent firm. He is a member of the Technical Assoc. of the Graphic Arts and of the Research Committee of Photo Engravers Research. Gilbert likewise continues other duties with Universal as its Chief Electronic Engineer. He is a specialist in the design of electronic counting and integrating devices.

GET-AT-ABLE*

*Possible to be reached, attained, got, or known; approachable, accessible; as a get-at-able place or person — Page 1053 of Webster's 1950 Edition

The headline describes perfectly the forms on the beds of Miller presses. The swing-away feeder leaves the cylinder and press bed wide open for work on packing, makeready and form. Write today for literature.

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Newspaper Craftsmen Elect

Nicholas J. Miranda, Mechanical Supt. of the Newhouse Newspapers, New York, N. Y., has been elected the first president of the Newspaper Craftsmen of New York. The organization, founded three years ago, is composed of superintendents and foremen of New York City daily newspapers. In addition to monthly educational meetings, the group makes periodic trips to equipment manufacturer's plants. Other officers elected recently are as follows: First Vice Pres., Stephen Lambert, Brooklyn *Eagle*; Second Vice Pres., O. Maguire, New York *Daily News*; Third Vice Pres., H. Broad, *Newsday*; Fourth Vice Pres., W. Mitchell, New York *World Telegram & Sun*; Recording Secretary, A. Mills, New York *Times*; and Secretary-Treasurer, J. Lawlor, New York *Herald Tribune*. Auditors are: R. Hunter, New Haven (Conn.) *Register*; N. Neu, Fairchild Publications, Inc.; and H. Dods, Triangle Publications.

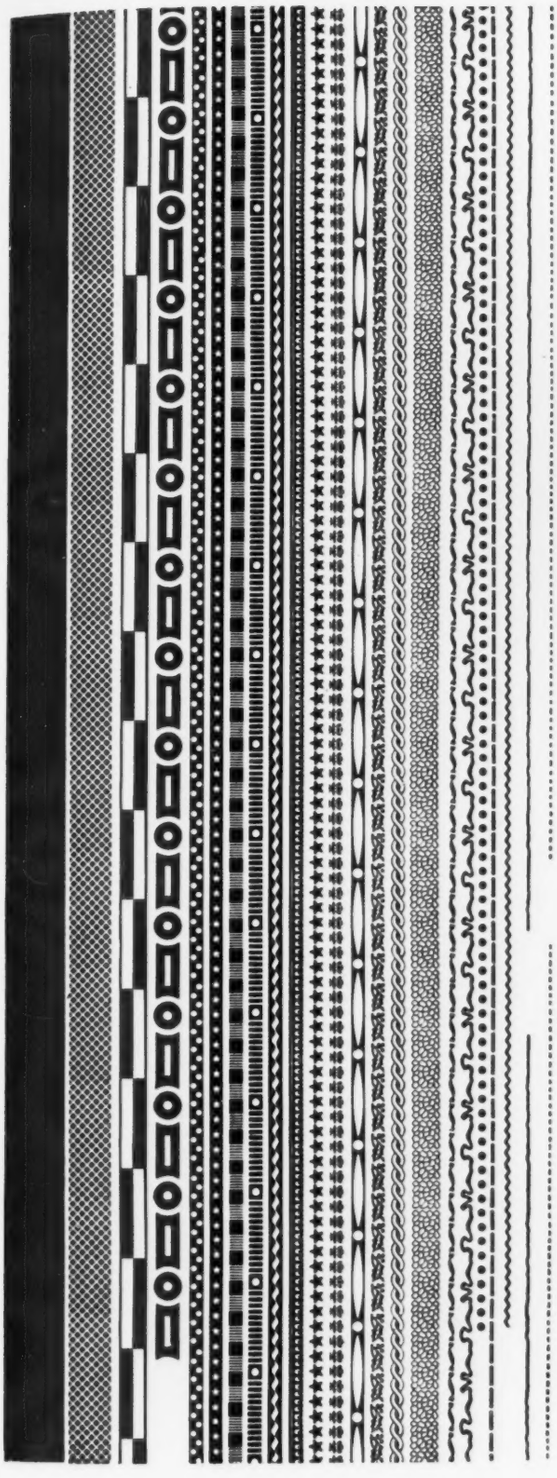
Publication Survey

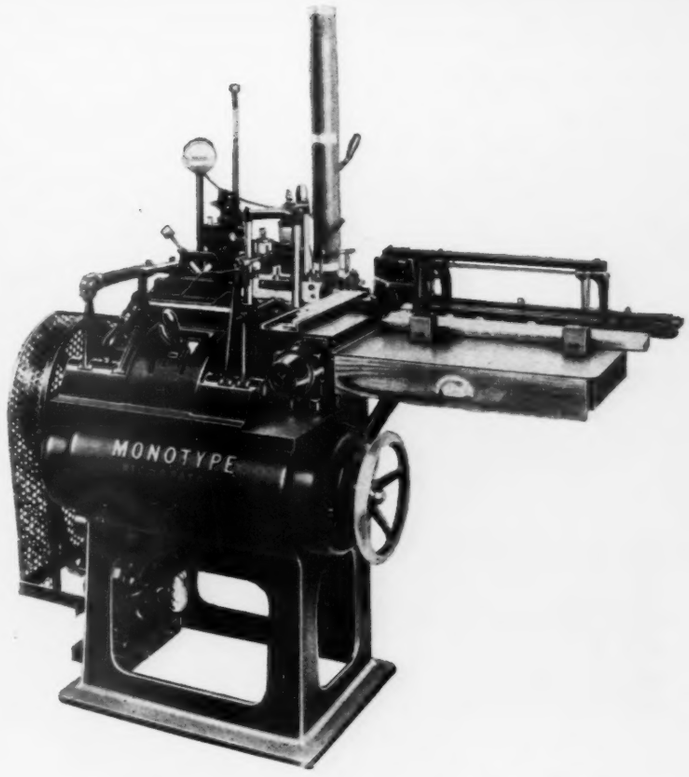
According to a survey made by the Intl. Council of Industrial Editors' Survey Committee, 71 per cent of the company publications circulated to more than 70 million readers are printed by letterpress. The Committee's findings, according to Philip J. Dahlberg, Chairman, revealed that $105 million were spent annually with the Graphic Arts industry in the production of these publications. The survey also showed the trend was toward greater use of illustrations and color.

Picks Lauck's Brochure

The American Institute of Graphic Arts has chosen a brochure printed by the Journalism Laboratory Press of Washington and Lee University for inclusion in its 1953 Printing for Commerce Exhibition. Designed and printed by C. Harold Lauck, Superintendent of the University Press, the brochure is an eight page booklet, $8\frac{1}{2}$ in. by 11 in. in size and printed in two colors for the Alfred I. du Pont Awards Foundation in Radio and Television. It is included in an exhibit of the best in American commercial printing now being shown in New York City. Later the exhibit will be shown in major American cities.

Lauck has won many state and national awards for fine craftsmanship in printing. Because of his frequent use of the Baskerville style of type he often is referred to in graphic arts circles as the "foremost Baskerville printer in America." He came to Washington and Lee University in 1932. In addition to directing the Journalism Press, he also teaches mechanics of journalism.





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Stereo Research

(Continued from Page 46)

Flint said it would take from three to four years to complete studies with respect to stereotype investigational problems. Among the subjects to be studied is a determination as to what is a good printing surface on a plate.

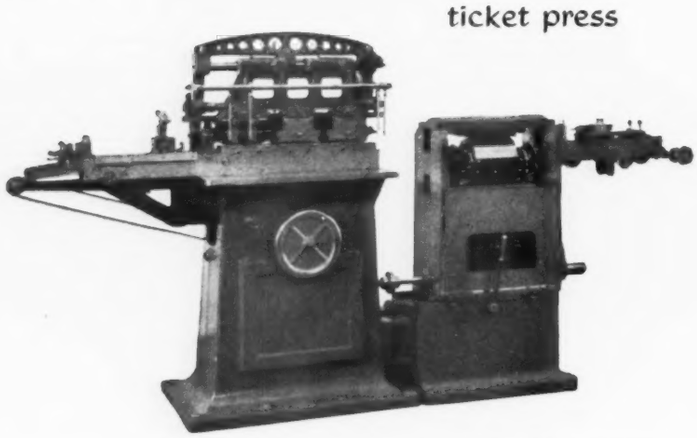
He explained the picking-up of moisture by mats to the extent of from six to eight per cent after which the mats will not pick up further moisture. A standard cork blanket in the summer atmosphere in one instance picked up 6% moisture just lying idle at the laboratory. He stated that moisture alone is not the determining factor in mat molding. There are many other factors to be studied.

In response to a question from George H. Fuller, Mr. Flint explained that the No-pack mat is not yet ready for commercial exploitation. Excellent progress, however, is being made. When the method has been perfected, announcement will be made immediately.

Various proposed or possible ways to moisture-proof cork were discussed. When Vinylite was introduced as a moisture repellant for cork, the molding characteristics of the combination were changed immediately.

Rolca

ticket press



The Rolca is a new high-speed, web-fed precision-engineered ticket press. Priced low, compactly designed, it's a big value buy for medium and small shops.
Prints, perforates, punches tickets up to 6½" long.
Quantity: prints 1, 2, 4 or 6 up.
Color: Front – prints 3 colors, or,
2 colors and 1 number. Back – 1 color.
Stock: Web-fed – paper, cardboard, gummed or ungummed.
Speed: up to 12,000 i.p.h. Fast changeover from job to job.
Versatile: can be equipped for varying web-widths up to 2½"; consecutive numbering; slitting, cutting of single tickets.
The Rolca is a rugged performer, easy to operate with all parts readily accessible.

Write for full data to

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Carnegie Graduates

Of the 48 printing management students who graduated from Carnegie Institute of Technology last June, 24 now have positions with printing plants, three with periodical publishers, three with book publishers, four with corporations and one with Carnegie. The others have either returned to their native countries to assume printing positions, entered the service or taking graduate work. The average starting salary of this group is $350 a month. According to Carnegie Tech, there are currently at least five offers of employment for each graduate.

Many of the graduates hold positions of executive and administrative responsibility, while others are doing specialized technical work in production planning and control, sales, advertising estimating and cost analysis. It was stated that 65 per cent are engaged in sales or advertising activities, 7 per cent are connected with firms producing and distributing printing supplies and equipment, and 4 per cent are teachers.

Opens for Business

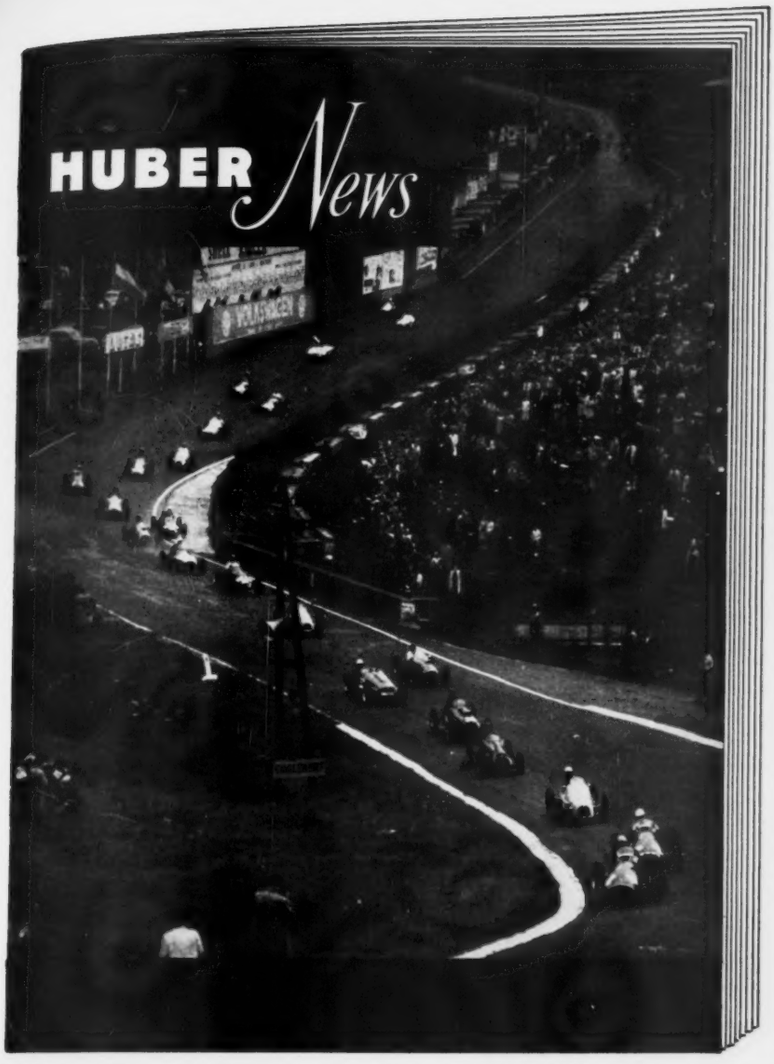
Diplomat Envelope Corp., Div. of Saxon Paper Corp., opened for business recently at its premises located at 23-33 Borden Ave., Long Island City 1, N. Y. The firm is also equipped with a printing department for envelope printing.

Maintenance Booklet Available

How to keep equipment, methods and facilities in top operating condition is among the information included in the 12 page booklet *Industrial Maintenance* available upon request to Wheeler Associates, Inc. Other contents of the booklet are a check list for machinery, maintenance of methods, plant facilities and physical environment. In addition, it covers the features of lighting, air conditioning, color painting, noise conditioning, vibration control, plant architecture and good housekeeping. Details are also given on employee operating efficiency, worker health and comfort, and employee morale. Copies of another booklet *Material Handling* are also available without charge. Requests should be addressed to Wheeler Associates, Inc., 15017 Detroit Ave., Cleveland 7, O.

MLCo Annual Report

In his 1952 annual report to the stockholders, President Martin M. Reed of Mergenthaler Linotype Co. noted an overall increase in total sales of 21 per cent for the fiscal year ended September 30. Included in the 24 page report are reviews of the company's research and development programs conducted during the year. Operation of the Davidson Corporation, a subsidiary of the Linotype company, is also described in the report. Mr. Reed stated his firm is continuing its program for the creation of new and improved products by research.



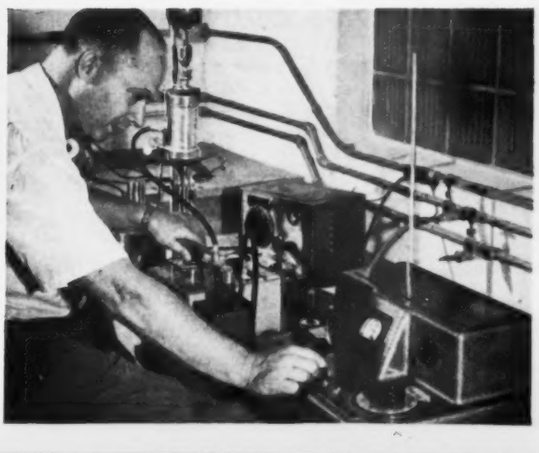
DESTINATION URUGUAY: Huber ink for South America swings aboard ship. Read more —starting on Page 16 of 24-page HUBER NEWS.

FOR OIL? No. Precious kaolin clay for finer printing papers is being located with this Huber prospecting rig. Read more in HUBER NEWS.

POUR LE SPORT: Why is the Grand Prix auto race the cover picture on a publication that keeps graphic arts executives better informed?

26,338 COPIES OF HUBER NEWS FOR 1982: Planting seedlings today assures raw materials for the publication industry's use tomorrow. Read "Tomorrow's Trees," Page 7.

There's much useful information for you in this new issue of HUBER NEWS—if you are in the printing, advertising, paper or publishing industries. Send for your free copy today.



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A/H and A/D Photo-Fitting Formulas

By David Reisz

HAD it been easy, it would be already the tradition of the trade. You can slice a square in half and get two oblongs. You can slice a resultant oblong and again you get squares. The platemaker's camera does better. In every operation, whether in reduction or enlargement, the square always remains a square.

An importer took a joy ride to Europe. Upon returning, he planned a circular.

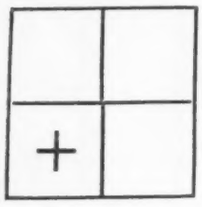

Fig. 1.—We call this Half Reduction, or ½ off. Actually, it is only ¼ of the previous size or area, while ¾ falls away.

In it he wanted to tell his customers and prospects that he surveyed the European market especially for their benefit in order to serve them better.

Being a fine looking fellow, he wanted to include a picture of himself in the circular. To his disappointment, his photo was reduced to ¼ size although he had ordered it to be ½ size.

When a non-printer says half, he means half. He talks sense. So he blamed the printer. Eventually, a larger halftone was ordered. But again, when it came to paying the bill, he refused to pay for the first cut, saying that the original mistake was that of the printer. Was he right?

The Hypotenuse Oblong

Of all the varieties of rectangles, there is only one, the hypotenuse oblong, which retains its shape no matter how many times you slice it in half. Mainly in order to achieve storage without waste of space, it has been recommended for adoption. Its proportion principle is correct, but the several sizes chosen involve too many fractions. There is no mention in the literature of the hypotenuse oblong that the same principle (generalized into a mathematical law of uniformity) is a definite ratio at all times, which could be employed to make it adaptable for efficient photo-fitting.

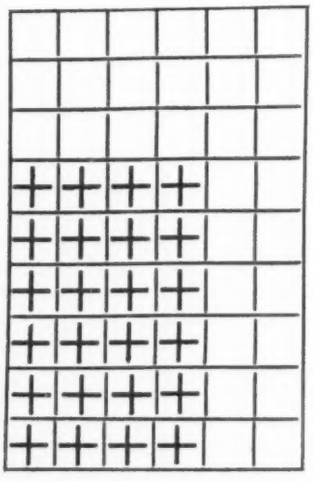

Fig. 2.—We call this ⅛ Reduction, or ⅛ off. Actually, only $^{24}/_{54}$ of the former area prints, while more than half ($^{30}/_{54}$) falls away. If the intended purpose is ½, it falls short because there should be a 27+27 unit area division.

Hence, until now, although the result is somewhat off, it has been much easier to continue saying that the reduction was one-half when the result was but one-quarter of the area, than to give the customer the actual one-half area ordered.

This is understandable. The simple mechanical process of the definite ratio was still unknown. Apparently no one seems to have stated the basic principle. Hence, if a customer was dissatisfied with the actual ¾ off, when he asked for ½ off, he was given either ⅓ off or ¼ off.

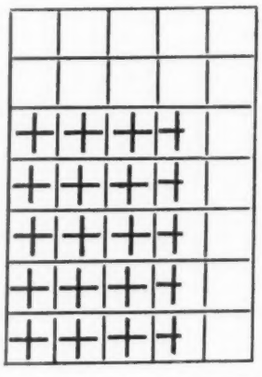

Fig. 3.—This is a half reduction. The 17½ unit area remains, and the 17½ unit area falls away. This illustrates how to use the 7:5 and/or 5:7 formula. The 7 is reduced to 5, and conversely the 5 is enlarged to 7.

The Definite Ratio or A/H and A/D Formulas

It took mankind ages to figure out the area of a circle even approximately. And it must have been a stroke of genius to make a permanent, accurate record of the geometrical π (pi) on the slide rule, to have it ready for instant use. Let us give thanks to our ancestors for the discovery of the pi formula.

I am only following in the footsteps of our ancestors, when I now suggest the formula A/H for *area-half*, and the formula A/D for *area-double*. The approximate ratio is 7:5 for ½ reduction, and 5:7 is the ratio for double enlargement. The new formula markings are recommended, because the expressions "half" and "double" are already preempted for misnamed sizes.

For all practical purposes the figures 7 and 5 are sufficiently accurate since the result is approximately within 2% accuracy. The easiest way in which to find the half size reduction is by using one of the plastic proportional rules presented by paper dealers and photoengravers to their customers. On the rule, register the figures 7 and 5 on the upper and lower scales. This is the 7:5 ratio explained above.

To illustrate, we will assume that you want to find the A/H of an 8 in. by 10 in. photograph.

Proceed as follows: For the 8 in. reduction, read on the upper scale from figure 7 to figure 8. On the lower scale immediately under the figure 8 will be found 5⅝ in., or approx. 5¾ in.

For the 10 in. reduction, again read on the upper scale starting from figure 7 but continue to figure 10. On the lower scale immediately under the figure 10 will be found 7⅛ in.

Thus the half size reduction in area will be approx. 5¾ in. by 7⅛ in.

For double enlargement, reverse the process.

Because as yet the customer, printer, artist or photographer is unfamiliar with this formula, it is advisable when ordering reductions or enlargements first to ascertain the right size required, then mark one of the dimensions in inches and fractions.

Eventually, if this formula will have been universally adopted, and the halving and doubling indicators become part of standard photographic equipment, then it will be as easy to order accurate half-sizes and accurate double-sizes of any size and shape, as it is now to order the inaccurate sizes.

Hand in hand with that improvement, it stands to reason also that artists, instead of making some of their drawings four times as large, will draw them but double size. Double size here means area-double size, using the 5:7 ratio. However, this will be of no more concern to the customer than the now used fourfold formula.

Machinists Consider Machine Progress

AT THE Sunday afternoon session of the Great Lakes Newspaper Mechanical Conference held at the Deshler-Wallick Hotel, Columbus, O., January 11, composing room machines and their maintenance problems were discussed.

Chairman of this session was Theodore Gardiner, Chief Machinist, Indianapolis (Ind.) *Star-News*, with Co-chairman Harold Johnson of the Columbus (O.) *Dispatch* assisting.

The first speaker on the program was Robert A. Blackburn, President, Automatic Saw Sharpening Co., Indianapolis. The title of his illustrated address was *Know Your Saw Blades*. By means of Kodachrome slides, Mr. Blackburn explained the four principal kinds of cutting tools used in the composing and stereotype rooms, as well as the photoengraving department. He listed these as machine swaged, set tooth, formed cutter and multipurpose. He explained fully the particular kinds of saws for use in com-

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Matrix prepared—18 seconds • Infra-Red Principle • Parabolic reflectors and units • Heaters are glare free • Regulates heat input in 15 second cycles • Signal light and buzzer • Blower to dispose of mat moisture • Dimensions: 36″ x 40″ x 36½″

Price: $1,125.00 f.o.b., Lynnfield, Mass.
Shipping weight—570 lbs.

GEORGE M. CLARK, designer, and aide, Arthur Adrien, pose behind new drier. Pre-heat control, right, timer left, start-and-stop buttons and red light signal, and mat lift handle are features.

PHOTO DRIER

Highly polished plate • Dries in 15 seconds

Thermostatically controlled

Size of drying plate: Large drier—26″ x 26″
Junior drier—14″ x 18″

PRICE: Large drier—$400.00
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posing rooms, photoengraving, stereotype and electrotype departments.

Panel Answers Questions

The panel of well known technical men and machinists invited to the speakers' platform consisted of the following: John Peecook, Chief Machinist, Cleveland *News*; Ike Challifoux, Chief Machinist, Cleveland *Plain Dealer*; John Hilpman, Technical Service Dept., Mergenthaler Linotype Co.; Walter Severin, Asst. Manager, Chicago Agency, Intertype Corp.; William Andreacci, Linotype Parts Co.; Clay Wellman, Asst. Sales Mgr., Ludlow Typograph Co.; J. E. Ferrier, Supt., Wabash (Ind.) *Plain Dealer*, and William Christmann of Mohr Lino-Saw Co.

Someone submitted a question as to what affect the heat used in processing line-composing machine matrices by the Matrix Contrast Corp.'s black and white process has on the matrices. The answer was that so far as any one knew, there is no softening effect upon the matrices whatever.

The next question submitted had to do with the hard breaking away of the metal pot mouthpiece from the mold after a slug has been cast. It was advised that the driving clutch spring could be stretched to increase the driving tension. The metal pot mouthpiece holes should be cleared with a small taper reamer. The mouthpiece metal temperature should be properly adjusted and an occasional annoyance could be found when the wrong style of pot return cam has been applied to the driving and mold slide cam. This is the little cam that assists in starting the pot back to normal position after a slug has been cast.

In a question which was submitted it was stated that when the keyboard is cold in the morning at time of starting work, difficulty is experienced until after the keyboard has become "warmed up." The submitter of the question was advised that the keyboard cams should be kept clean and properly oiled with clock or sperm oil. The teeth on the periphery of the cam wheel should not be permitted to remain rounded through wear and the rubber rollers should be kept in good condition to help secure traction. Someone suggested that if the heat must be turned off at night a common incandescent light could be fastened under the keyboard at night to help start off keyboard action properly in the morning.

Harold Johnson, Chief Machinist, Columbus *Dispatch*, told about applying a different type of impression cylinder top sheet to one of the *Dispatch's* Vandercook proof presses. At a Columbus department store he secured a 54 in. wide piece of plastic chair covering of 20 ga. thickness. This is sufficient to cover two impression cylinders and he said printing from the material is highly satisfactory.

Some complaint was registered because of the breaking or burring of the top edge of Teletypesetter style spacebands in a Linotype Comet machine when the assembling elevator raises the matrix line to the delivery slide in cases where the spacebands themselves had not settled down properly in the assembling elevator. One machinist suggested a method of cutting off approx. $\frac{1}{64}$ in. or $\frac{1}{32}$ in. from the top of the spaceband long wedge so as to thicken the stock at the top of the wedge to resist the impact when the spacebands strike the delivery slide connecting bar. Cecil Watkins, Mechanical Supt., Sidney (O.) *Daily News*, said that in his plant the same trouble had been experienced but had been overcome by fastening a rawhide strip to the underside of the connecting bar between the delivery slide short and long fingers.

Harold Plaut of Intertype Corp. discussed *What's New With Intertype*. After describing some of the major recent improvements in Intertypes, he exhibited a specially prepared specimen sheet which shows that three Intertype matrix faces of different set widths (118.1, 115.6 and 113.1) can be used in connection with Teletypesetter wire service. When tape is punched with 118.1 matrices for 12 pica columns for use in column width measurements of 11 picas, 9 pt., or 11 picas, 6 pt. composition will be as satisfactory as if the 115.6 or 113.1 matrices are used. These faces respectively are 8 pt. Regal No. 1 Teletype with bold, 8 pt. Regal No. 1 Teletype with Bold Special, and Intertype 8 pt. Regal No. 1A Teletype with Bold. In all instances, as shown on the demonstration sheet, the settings ran line for line. The various specimen settings also demonstrated various page widths running from 99 picas, 6 pt. ($16\frac{5}{8}$ in.) down to 93 picas, 9 pt. ($15\frac{5}{8}$ in.) width. Newsprint roll widths, after stipulated stereotype shrinkages in the

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TWO ROUSE TIME-SAVING
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With Exclusive Automatic Feed
For Photoengravers,
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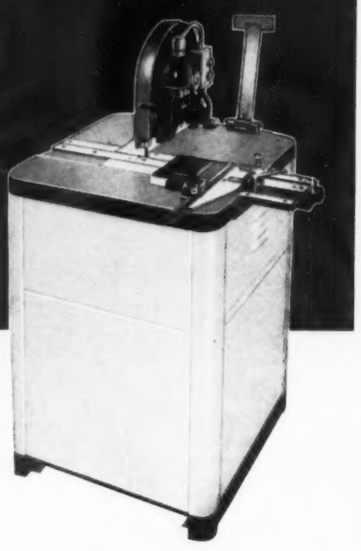

No more manual squaring up, guesswork alignment, tacking, scoring, beveling, trimming, removing burrs, using wedges. That's how a Rouse Plate Saw soon pays for itself.

Just make 4 quick, easy, automatic saw cuts and your plate is ready for the printer. The *exclusive* automatic feed guarantees each cut to be perfectly square, smooth-edged and uniform on any copper, zinc, magnesium or plastic plate, whether wood or plastic mounted or shellcast.

Cuts are made to Picas, Points, Quarter Points or Inches as required. Outside Mortising is effectively done to pica and point measurement.

NEW 24" MODEL—automatically cuts up to 24" of type-high work in only 27 seconds.

15" MODEL—identical to 24" Model except it automatically cuts up to 15" of type-high work in only 17 seconds.

BOTH MODELS occupy only 26" x 26" floor space.

NEW FEATURES (*on Both Models*)

1. Now you can make *cuts as small as 1 Pica square* for signatures, key letter or number changes, etc.

2. *Narrow Cut* measures about 2 points (.028"), permitting cutting between type lines.

3. Saw blades are changed in just 1 minute due to new lever-operated tension release. Blades stay sharp during 30-40 hours continuous operation. New blades are inexpensive.

4. New simplified gauge adjusting device makes it easier to maintain perfect squareness in cutting.

DESIGNED BY MEN WITH 25 YEARS KNOW-HOW IN BUILDING BAND SAWS FOR PRINTERS

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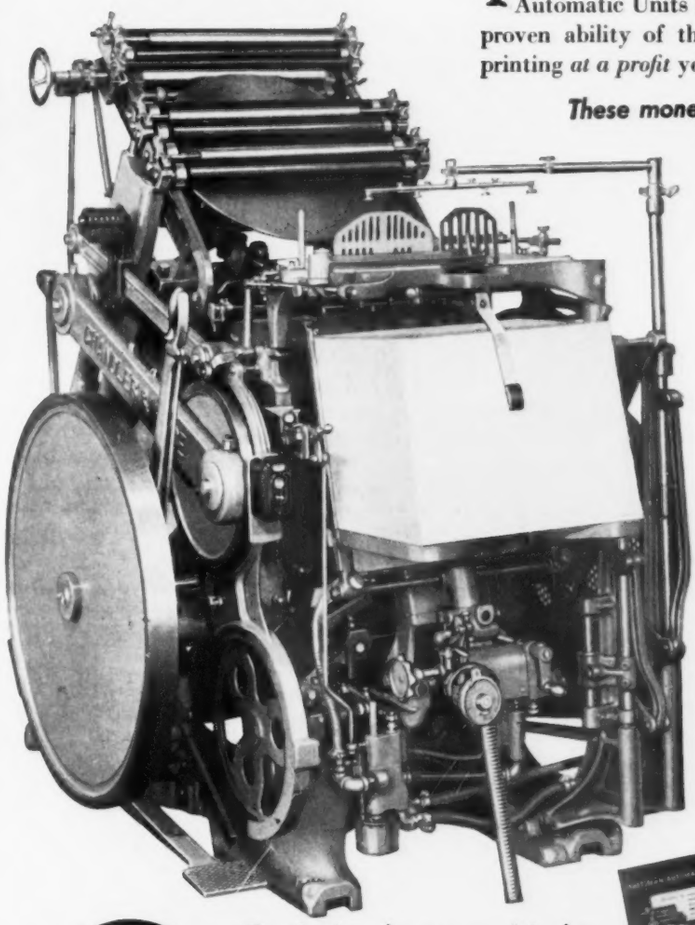
12 x 18 10 x 15



THE purchase of over 25,000 Chandler & Price Craftsman Automatic Units by printers everywhere is based on the proven ability of these presses to turn out fine, quality printing *at a profit* year after year.

These money making features include:

1. Ability to handle 90% of "run-of-hook" work.
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3. Automatic feeding up to 3500 impressions per hour.
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7. Takes a 14½-inch pile of stock.
8. Feeds any stock from onion-skin to 12 ply cardboard.
9. Handles irregular and odd shapes or cut-out novelties.
10. Two-up attachment provides doubled production on small forms and envelopes.
11. Sheet size on 12 x 18 up to 13″ x 19″; 10 x 15 up to 11″ x 15½″.
12. Smallest sheet size 1⅞″ x 3⅜″.

For a complete explanation of the profit-producing features of C&P Craftsman Automatic Units write for the C&P Craftsman Booklet.

Built by American Workmen

case of each column width setting, are given. These roll widths range from 67½ in. paper down to 61 in. paper with 1¼ in. shrinkage. The mat shrinkages ranged from ⅝, ⅞, 1⅛, and ⅛ in., up to and including 1¼ in.

Clay Wellman of Ludlow Typograph Co., with the aid of large charts, gave a full description of the construction, purposes and operation of Ludlow and Elrod equipment. He explained the various types of sticks in which Ludlow matrices are assembled and used, including the composition of italic type and the self-centering stick. He also explained, in addition to the every day practical use of Ludlow equipment, that special matrices bearing logotypes or trade mark designs are available upon order.

John Hilpman of Mergenthaler Linotype Co., with the assistance of a projector, discussed late model Linotypes together with many of the improvements which have been made recently in the various machines.

A question was presented to the chairman in which it was stated: "When breaking too many driving pulley safety keys on a Ludlow machine what are the causes?" It was explained that the safety key (equivalent of the standard shearing pin on many machines) functions to prevent breakage of important machine parts. In case there is some obstruction between the metal pot mouthpiece and the mold or between the mold and the matrix line, it was suggested that perhaps if the mouthpiece slot is too wide, a hard break-away of the mouthpiece from the slot might cause the pin to break. In some plants, in preference to using the offset stick, the operator will attempt to offset letter characters on the slug by inserting perhaps a 3 pt. piece of rule or spacing material between the stick at one side of the slot. The operator slides the so-called filler piece into casting position along with the stick containing the matrices—then when he lifts the stick from the machine, the filler piece falls on the mold. On the next cast, the filler piece causes a squirt. It was also explained that after long use, matrices may throw up a burr near one edge of the matrix casting cell. If there are enough burrs on the matrices in a line, the slug will pull from the mold and causes an obstruction when the delivery slide starts to convey the slug to the delivery chute.

Houston Address Change

Houston Graphic Arts Assoc., Inc., recently moved into its new headquarters located at 1108 Blodgett St., Houston, Tex. New telephone numbers are KEystone 7536 and KEystone 6525.

Davidson Consolidated

Davidson Corporation, a wholly owned subsidiary of Mergenthaler Linotype Co., will move its operations from Chicago to the parent company's facilities in Brooklyn, N. Y., stated Linotype's President Martin M. Reed in a recent announcement. The actual transfer, which will result in the consolidation of Linotype and Davidson manufacturing operations, will begin in February and March, and will be completed in June. Davidson sales headquarters will also be moved to Brooklyn, but separate sales administration offices will be maintained. The Davidson field sales force will continue as an autonomous group.

Immersion Heater in Use 25 Years—The General Electric Calrod immersion heater shown above was recently removed from its stereotype melting pot at the Milwaukee (Wis.) *Journal* after being in use for 25 years. According to the report, the heater has never been out of the stereotype pot since its installation in 1927, and the pot has never been cold since it was first started up in February of that year. Grouped around the heater, from left to right: R. E. Welton and C. Stracka, G-E Sales Engineers, and Charles Stenger, Milwaukee *Journal*.

General Bulletins.....

For Graphic Arts Industry

GENERAL GROUP

- **Detergents for the Printer, No. M-1.** Information regarding detergents used in the Graphic Arts industry.
- **A Listing of Research Developments & Engineering Programs Pertaining to the Graphic Arts, No. RS-2.** Description of research projects currently going on in printing industry.
- **Preventive Maintenance, No. EQ-2.** Includes points of a planned preventive maintenance program and the essentials for planning and installing such a program.
- **General Specifications For Operating Instruction Manuals, No. EQ-1.** Specifications for the proper preparation of instruction manuals by equipment manufacturers.
- **Static Electricity, No. PA-1.** Recent theories and experience of the Graphic Arts industry in the control of static electricity. All known techniques are discussed.

Price for set . . . $6.00

RESEARCH AND ENGINEERING COUNCIL of the GRAPHIC ARTS INDUSTRY

719 Fifteenth St., N. W. Washington 5, D. C.

Platemaking Bulletins . . .

For Graphic Arts Industry

PLATEMAKING GROUP

- **Electrotyping in the Government Printing Office, No. PL-2.** Includes specifications, procedures, techniques and formulae used by the GPO in preparing all kinds of electrotypes.
- **Basic Requirements for Electrotypes.** Information for the customer, photoengraver, compositor and electrotyper in producing a good plate.
- **Magnesium Plates, No. PL-1.** Contains data and experience on the use of magnesium plates in the letterpress field.
- **Plates, No. CONF-1.** A report containing the proceedings of the conference on printing plates held at Battelle Institute, Columbus, O., February 1950.
- **Photoengraving Specifications Manual.** Specifications for the production of photoengravings to aid in improving quality and cutting costs and waste.

Price for set . . . $4.00

RESEARCH AND ENGINEERING COUNCIL of the GRAPHIC ARTS INDUSTRY

719 Fifteenth St., N. W. Washington 5, D. C.

Research Conference in Sweden

The Second Intl. Conference of Printing Research Institutes will take place in Stockholm and Salen, Sweden, on June 8 to 13. The subject of discussion will be the printability of paper. Topics to be included are the definition of printability, review of printability work, physical and chemical relationships between paper and ink, properties of paper affecting printability, testing for printability and what the papermaker can do to improve the printability of paper. The official language of the conference will be English. Among the research institutes and organizations invited to participate are the following: American Newspaper Publishers Assoc., Research Dept.; Battelle Memorial Institute, Graphic Arts Div.; Institute of Paper Chemistry; Lithographic Technical Foundation; National Printing Ink Research Institute; Research and Engineering Council of the Graphic Arts Industry; Rochester Institute of Technology; and Tappi, Graphic Arts Div. Further information may be obtained from Gösta Carlsson, Director, Graphic Arts Research Laboratory, Drottning Kristinas Vag 61, Stockholm, Sweden.

Goes To 11½ Pica Col.

With the December 30 issue, column width of the San Francisco *Chronicle* was reduced from 11 picas, 10 pts. to 11½ picas. At the same time, mat shrinkage was reduced from 9/16 to 5/16 in. There is no change in the stereotype plate size of 15⅛ in. Since there is less mat shrinkage, better reproduction will be possible, according to Fred Gross, Mechanical Supt.

Who's To Blame?

By E. Curtis White*

**Pressroom Supt., Indianapolis (Ind.) Newspapers, Inc., before Great Lakes Conference, Columbus, O., January 1953.*

DURING the past 15 years we have never been completely satisfied with our r.o.p. color printing and have constantly tried to find ways to cut costs, save time and get better results. At meeting after meeting of newspaper craftsmen we have listened to many splendid discussions on r.o.p. color printing. We thought there could be very little said that was new, useful to us, or interesting on this subject.

Imagine our surprise at the San Francisco A.N.P.A. Mechanical conference last June where we heard several agency speakers bitterly condemn the quality of r.o.p. color printing throughout the country. One agency speaker said "On the subject of color, one of our most important problems today is four color r.o.p. and we are not getting our value from it." Another said, "I have run r.o.p. color up and down the Pacific coast and 11 Western states and some of it is not worth the powder to blow it to hell." We are sending some pretty good material to these people—but, as I stand here

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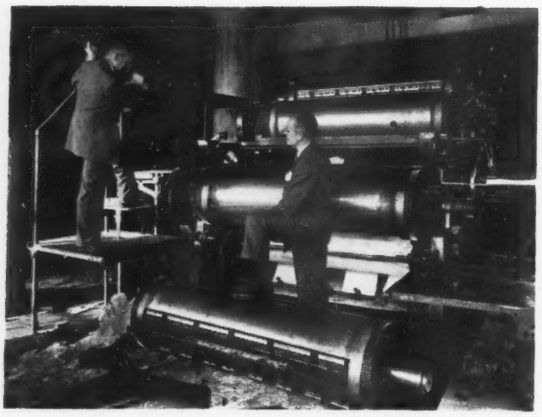
POWRWORKERS
"Job Engineered" to do a hundred and one jobs
POUND FOR POUND, dollar for dollar, you can't beat the value in CLARK'S POWRWORKER Line. You get big-truck benefits at rock-bottom, small-truck cost. Take the POWRWORKER stacker, for example: a rugged, modern fork truck, but cut to fit the tighter handling pattern of narrow aisles, low-load floors, limited budgets. Short turning radius, easy finger-tip control and ample power-plant assure fast, safe handling and stacking. Truly big-truck performance in an economical package.
Ask your CLARK dealer about the POWRWORKER models: stacker, pallet truck, platform truck and tug tractor—"walk 'em or ride 'em." These power-packed time-savers are job-engineered to cut your handling costs in a hundred and one ways. They're built right and priced right to give you top-dollar value.
CLARK MATERIALS HANDLING EQUIPMENT
THE SIGN OF THE BEST BUY LINE
1903 1953 FIRST FIFTY YEARS CLARK EQUIPMENT
Tug Tractor
Platform Truck
Pallet Truck
CLARK ELECTRIC AND GAS POWERED FORK TRUCKS
AND POWERED HAND TRUCKS · INDUSTRIAL TOWING TRACTORS
INDUSTRIAL TRUCK DIVISION • CLARK EQUIPMENT COMPANY • BUCHANAN 151, MICHIGAN
Please send: ☐ Powrworker literature ☐ Material Handling News ☐ Have Representative Call.
Name
Firm Name
Street
City Zone State
AUTHORIZED CLARK INDUSTRIAL TRUCK PARTS AND SERVICE STATIONS IN STRATEGIC LOCATIONS



Powerful Pictorial Sermon—President J. Louis Landenberger, Ketterlinus Litho Mfg. Co., wields sledge hammer on one of the old presses discarded in favor of new equipment. Ketterlinus recently moved into modern plant at Primos, Pa. Replacing this old machine is a Harris 50 in. by 72 in. two-color press. The old machine was purchased new in 1929. Landenberger stated the old machine was still producing good work but net production was not great enough to provide adequate profit margin in competition with newer presses. Watching disposal operation is Ralph H. Randall, Manager of Harris-Seybold's Philadelphia district. Incidentally, Ketterlinus had been located for 110 years at Fourth and Arch Sts., Philadelphia.

tonight r.o.p. color is a 50% proposition —some is good and some is terrible."

Now these were pretty strong words and brought on one of the stormiest debates covering just about every printing angle that I have ever heard. In the end many of us thought the remarks were a little far fetched. But during the next two days we were shown tear sheet after tear sheet from several agencies from all over the country. A few were good, many were fair and some were, to say the least, pretty bad. We realized then that as an industry, notwithstanding the brilliant examples of some, we are not doing the job that we ought to do and that we must do.

I certainly do not want to pose as an expert but perhaps as a result of a several years' experience and a lot of serious study I can point out some of our troubles. That includes the business office, the advertiser, the agency's, the advertising department, art room, engraving, stereotype and pressroom.

Without the wholehearted and eager co-operation of all concerned, disappointing and disastrous results are assured in color printing.

In checking the tear sheets at San Francisco, some of the most serious faults were: (1) Material sent out by the agencies had been flat cast to shrink to go in the page size. In a few tear sheets it seemed even a second flat cast was made and the results were bad. Some material seemed to have been flat cast for no apparent reason. (2) If color proofs had been sent out it seemed that only a few papers paid much attention to them. (3) Good register was had in some cases but was lacking in many others.

It is my opinion that a great deal of this trouble was caused by the large number of newspapers without previous experience but who are now attempting four color printing. It seems progressive advertising managers seeing the potentialities but not realizing all that is involved in color printing find their pressroom is mechanically equipped to run four colors. They know they have a good pressroom force, so they get into 4 color printing. They know also that the Milwaukee (Wis.) *Journal* for instance has done an amazing job with no more equipment than nearly all of us have in our pressrooms. That is, they have nothing unusual but an awful lot of *know how* and the *experience* that transcends in importance any kind of equipment. More important, but usually overlooked, is the *know how* so absolutely essential in stereotype, engraving and art rooms. May I say here that most important, whether it is black or color work is the *know how* of the stereotype department. Here is where your printing is made or it can be ruined. There is not a plant producing a well printed paper without a good stereotype department. If good printing is not in the plate when it goes to the pressroom then there can be no good printing. Every pressman here, I am sure, has received plates that simply would not print. You can crowd on the ink, put on more impression and underlay plates but nothing will make that plate print black in the solids. In that same plate highlights will be gray not white, middletones won't show, and you can cut color, take off impression or anything else but you can't print. If you are using the best ink, the best rollers, the best blankets known to the industry, the results will still be bad. When you get that good set of plates they print themselves and color is easy to set. The blacks are black and the highlights white. Good ink, good rollers and good blankets are essential, but all these cannot insure good printing without that good plate. I feel that the resourceful stereotypers of the country will find the answer for the making of color plates and deliver to the pressroom plates that will more uniformly do a good job.

Agencies should supply materials and proofs so that each mechanical department can have reasonable time to plan and process its work. Surely progressive proofs with color bars printed on newsprint should be furnished. Newspaper people do not print upon white enamel stock. One copy should be sent immediately to the pressroom so that proper color inks may be mixed or ordered in advance and plans made to accommodate the running of that page with whatever other colors might be running on the date of publication.

Agency material should be delivered to the stereotype room in such condition that a minimum of flat casting is done. Here is where many jobs we checked in San Francisco were ruined. Never in my opinion, should a flat cast be made if it is possible to avoid it as the final printing takes its first step toward trouble at this point. Register is hard to keep through the process of flat casting. The loss of depth through flat casting is serious in black printing. It can be disastrous in color work.

One of the essential components of good color process printing, especially if long runs are involved is the nickel or iron plating of process plates. In many instances I know we are paying for the lack of plating in time lost in changing worn plates, time lost in re-registering, and in poor results.

Color engravings require more care than for black printing. Spaces between dots should have extreme depths and the dot diameter should never be excessive. The shoulders must be watched carefully as many less-than-page-size ads *must* be flat cast. This certainly is a problem for the agencies to work on. At San Francisco it was suggested that each paper carefully check its material on arrival and notify the agency if it is bad. It seems to me each agency should insist that the maker of this material check the material for each ad more carefully before sending it out.

Another nation-wide problem is that notwithstanding the interest and continued co-operation of the agencies, who have freely criticized our printing, the stereotyper still receives material that either cannot be reproduced satisfactorily or at best takes valuable time and ingenuity in the stereotype room to get it into fit condition for printing in the pressroom. Not only do we at Indianapolis have that problem, but Frank Reilly, President of Lake Shore Electrotype Co. has this to say: "Standards have not been established by ANPA for making engraving proofs for duplicate printing material. We receive originals from advertisers from which good printing results are just not possible. Many engravings received by us are sub-standard because they lack proper register marks, or have shallow halftone depths and shoulders on vignettes and drop-out areas."

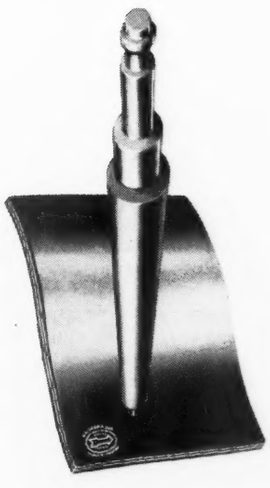
I am sure there is an impelling demand for more complete co-operation from the agencies to get material to the stereotype department that is satisfactory.

Let me call to your attention a point brought out in the discussion at San Francisco and which we have also experienced. Complaints from mechanical departments to the agencies seem to have brought no results.

It seems to me closer co-operation between mechanical departments and newspaper advertising departments might include copies of complaints made and copies of any answers received from the agencies for sending to the mechanical department involved. This should insure that proper suggestions had really been made to the agency so the matter would not die in the advertising departments.

For local art work a deeper study is definitely needed by all concerned as to the possibilities and the limitations of

Teamed for Service...



You can pull through the toughest job with flying colors when you use this team. They're a heavy-duty pair created especially for top quality heavy-duty performance. Let us prove it.

MADE FOR ALL GRAPHIC ARTS PROCESSES

RAPID ROLLER CO.
FEDERAL AT 26TH
CHICAGO 16, ILL.

D. M. RAPPORT
PRESIDENT

process work. In line with this I feel sure that the larger metropolitan papers have failed to grasp the tremendous possibilities of the color analyst instrument in use at the Milwaukee *Journal*.

A careless or poorly executed job in making color plates is reflected in tremendously increased cost in the pressroom. For example: The production of your entire pressroom, whether you have 8 men or 80 men can be held up by any unnecessary carding or registering of plates. In this operation a highly skilled stereotyper can not only save a tremendous cost in the pressroom but will enable the pressroom to deliver the papers to the mailing room on schedule.

To aid in this work for metropolitan papers who can afford it, mat pre-registering machines are available. I found in Milwaukee a home-made substitute which Harry Wrasse had perfected. It consisted simply of a drawing board with hinged plastic cover by means of which he carefully pre-registers all his color plates. So that you may understand, let me give you the results of the operation in this stereotype room without any extra equipment except that all important experience and know how.

The pressroom finished its day's run at 4 p.m. The sheets were torn from the press, the press units were cleaned for color and the presses were replated for two three color and black jobs and a three color job and some single colors. The sheets were put in and the color was pre-set. At 6 p.m. (2 hrs. later) the run was started. On one machine I counted only 60 spoils thrown out after reaching press running speed. After about 5000 papers had been run the presses were stopped to put in a card or two and the long production run was started.

Stereotype Supt. George Fuller of the Cleveland *Press* has developed a simple device for checking registration of color plates. The plates can be put on the press with assurance that first run papers can go on the streets.

Before I close I must pay tribute to the firm that has done a tremendous job in promoting good color work throughout America—the Lake Shore Electrotype Co, Chicago. This firm's pre-made-ready and pre-registered mats made to any paper's individual requirements embody all and more of the requirements I have tried to outline above.

Charles Stenger, Electrical Engineer of the ***Journal***, presents the 25-year-old immersion heater to G.E.'s R. E. Welton and Carl Stracka.

25 Years of Trouble-free Stereo Melting

For 25½ years (to August, 1952) this Calrod* heater served the Milwaukee *Journal* without maintenance—never taken out and never cold! During this time, this and other Calrod heaters have melted type metal to help print 2,254,420,632 papers.

NO MATTER WHAT YOUR CIRCULATION, you can enjoy maintenance-free stereotype melting with electric heat. Specify electric heat when you buy stereo furnaces—dependable Calrod heaters. Your present pots can probably be converted to safe, economical electric heat over a weekend. Write for Bulletin GEA-5453 to Section 720-98, General Electric Company, Schenectady, New York.

*Registered Trade-mark of General Electric Company.

GENERAL ELECTRIC

Tests Show Shrink Effects on Type Faces

EMBODYING a series of test printings, Mergenthaler Linotype Co. has sent to mechanical executives of daily newspaper 16 full size news pages which show the comparative effects of shrinkage in stereotyping.

The printed test pages demonstrate three degrees of stereo shrinkage each on separate pages against a direct-from-slugs impression, also on a separate page. The shrinkages are ½ in., 9/16 in., and 1⅛ in. across the full 8 col. page.

The test pages are printed in black on four kinds of paper: A warm gray and a cool gray newsprint, a white book paper, and a gray book paper similar to news. The latter two book papers are for preservation of these experimental studies, since the news print pages will have limited life.

The method of production was carefully established to assure normal test conditions and to obtain results of comparative significance. The test page was laid out for identical settings in the six faces of the Linotype Legibility Group: Times Roman, Corona, Excelsior, Ionic No. 5, Paragon and Opticon. Using the 8 pt. size of each face, on 9 pt. slug body, a column of identical copy was composed in each. Each slug was cast four times. Thus four original type pages became available, identical as to copy, identical in their slug casting and in their makeup.

Using these original type forms, the first was held intact to be printed direct as the basis of comparison. The other three forms were molded for stereotyping, using controlled methods to produce the specified degrees of shrinkage in the mats. No type form was molded twice. There was an original page for each molding. Thus distortion of the type which could be caused by repeated molding pressures on the same form was eliminated.

Instead of casting the three stereo matrices to make cylindrical plates for conventional rotary press printing, it was decided to make a flat cast of each. Thus the three cast pages, varying in width

from 15¼ in. to 15¾ in., could be printed under identical flatbed conditions with the original slug page, which is 16⅜ in. wide. Had the stereotyped pages been printed on rotary presses, their varying dimensions would have necessitated different press runs. Thus the immediate basis for comparison of printing effects would have been lost, in part at least.

The conditions of presswork on these pages having been brought to a common standard, to print them on one press and with the same pressmen controlling careful impression, it became practicable to print several kinds of paper and keep them comparable in printing results.

These pages answer many questions as to the effects of shrinkage in stereotyping in various degrees. They show that the more moderate shrinkage, recently emphasized by ANPA's action for an 11-6 column, gives all body types a more favorable opportunity to hold legibility. But they also show that the extreme 1⅛ in. shrinkage, when still used for newsprint economy, does not distort such faces as Corona and Paragon.

The test page, with its settings in identical copy, also becomes a useful comparison of word-count characteristics. The Times Roman, most compact in alphabet length, sets 1160 words in a 21½ in. 12-pica column of 8 on 9 pt. The word-count drops as the type faces open up with increased alphabet length to the maximum of Opticon, which sets 970 words in a 21½ in. column. This is a range of nearly 20% in the space-filling traits of the six body faces.

In molding the stereotype matrices in the varying widths, New York and Brooklyn newspaper plants cooperated. The matrix manufacturers helped by furnishing mats properly conditioned to produce the stipulated shrinkages.

Research in stereotyping, notably as conducted by ANPA's laboratory, has compared printing depths of plates produced under widely varying conditions. The effects on halftone screens likewise have been closely investigated. But the Linotype tests are claimed to be distinctive in their comparisons of the more widely used news body faces under identical conditions of study.

While the remainder of a limited number of printings is available, the set of 16 test pages will be sent on request direct to Mergenthaler Linotype Co.

Those Little Tubes Fuss Up Your Paper

(Reprinted from *Paper Patter* from information furnished by Paper Manufacturers Co., Philadelphia.)

WEATHER and humidity play an important part in the handling of paper. To properly appraise these conditions, you must first realize that all paper is a mass of criss-crossed fibers, and if examined under a microscope, you would find each a tiny tube with a varying amount of moisture in it. The ends of these tiny tubes are open and the moisture is subject to be drawn out on a very hot day and to be saturated on a day of high humidity. Humidity is the culprit that causes most of the trouble in the pressroom. On a dry hot day the atmosphere will draw out the moisture in these many tiny tubes and cause the sheet to shrink. By tests under the right conditions, it has been found that a 35 in. by 45 in. sheet of paper can be shrunk or stretched ⅛ in. in 15 min. So you can see that keeping the right humidity in your pressroom will add greatly to your register problems.

Following is a scale of humidity readings:

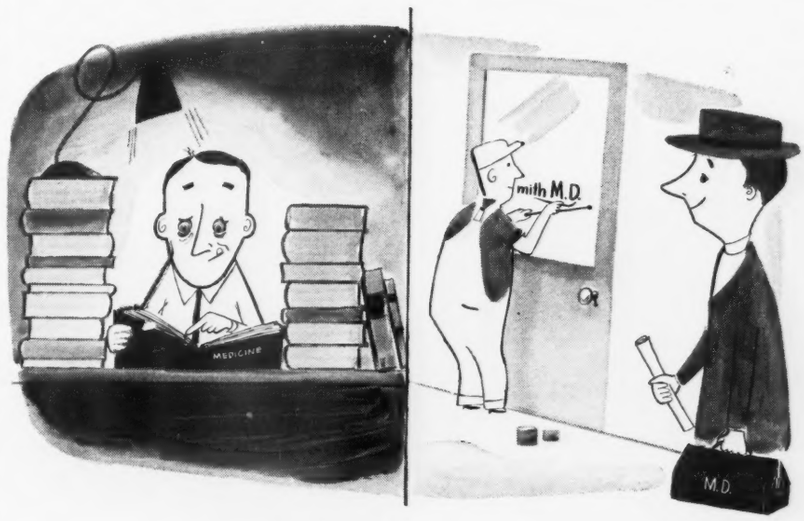
Very Dry.....Under 35 per cent
Dry.....35 per cent to 40 per cent
Normal.....41 per cent to 55 per cent
Damp.....56 per cent to 65 per cent
Very Damp...Over 65 per cent

To keep the proper humidity in your pressroom, the following chart should be helpful.

Relative Humidity (Per Cent)	Raised to (Per Cent)	You must evaporate this quantity at the following temperatures.*			
		Deg.	Pints	Deg.	Pints
10	20	60	1.0	70	1.2
10	30	60	2.0	70	2.7
10	40	60	2.7	70	3.7
20	30	60	1.0	70	1.4
20	40	60	1.7	70	2.5
30	40	60	.7	70	1.0

*The above is computed on the basis of 10,000 cubic feet of Room Space.

Good Make-Ready gets—Good Results!



Good make-ready is easier and printing quality increases with Cromwell Special Prepared Tympan. It's smooth, with no lumps. Has uniform texture. Gives you clean, sharp impressions with less work. You get a tight, strong packing that's tough—extra hard—with absolute resistance to oil and atmospheric changes. Cromwell Tympan is *unconditionally guaranteed.* You can depend on it.

for good PRINTING make-ready don't say "Tympan" say ... CROMWELL!

CROMWELL PAPER COMPANY
4801-39 S. Whipple St.
Chicago 32, Illinois

send this coupon now for free samples

Cromwell Paper Company
4801 South Whipple Street
Chicago 32, Illinois

Send working samples of Cromwell's Special Tympan to me without charge or obligation.

Name _____

Firm Address _____

City _____ Zone _____ State _____

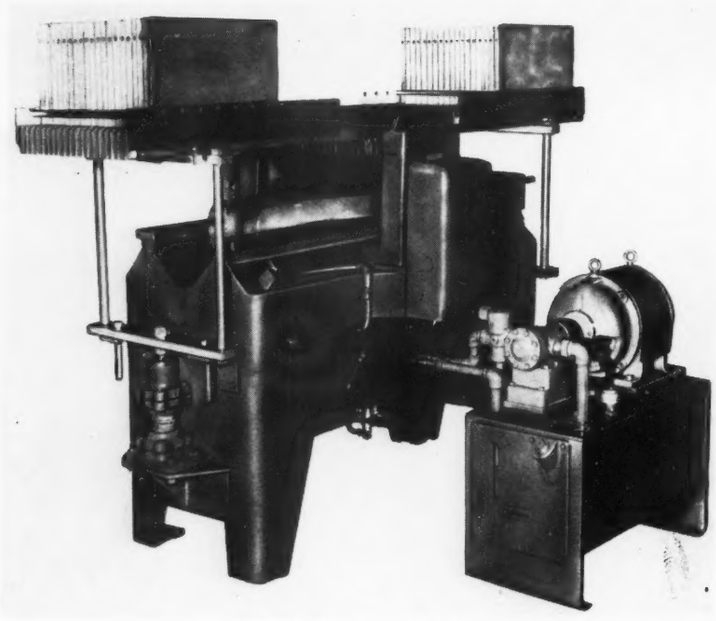
Press Make _____ Top Sheet Size _____

(check)—Square Cut ☐ Clipped, scored ☐

BISHOP Consoleveler

. . . the machine *designed* to assist in the production of quality electrotype plates

(Patented and other patents pending)



Occupies Floor Space of 4' x 6'

THE ONE-OPERATION MACHINE

- Provides a true overall level printing surface on the plate. Eliminates buckles and sinks. Eliminates greatest percentage of hand finishing of plates.
- Through powerful multiple roller and weight unit cantilever action, all gas and/or air pockets are automatically eliminated and the molecular structure of the backing metal is solidified uniformly irrespective of the plate area.
- Handles plates up to 19 x 26 inches.

Thanks for your past response . . . at the first opportunity we will be happy to give you a demonstration.

BISHOP-STANSELL COMPANY

Printing Engineers • Makeready Equipment

WEST CARROLLTON, OHIO

Improved Machines For Mailrooms

WIRE tying machines, automatic mailing machines and conveyor systems were among the topics discussed at the Mailroom Session of the recently held Great Lakes Newspaper Mechanical Conference. Able chairmen of this important meeting were Joseph F. Walker, Mailroom Supt., Cincinnati (O.) *Enquirer*, and Robert H. Smith, Mailroom Supt., Indianapolis (Ind.) *Star-News*.

Improvements in the Wiretyer Automatic Wire Tying machine were explained by W. H. Hayford of the Wiretyer Corporation. The machine is now designed for making single ties on either or both ends of the bundle, or a single tie in the center. The bundle is pneumatically centered, straightened and compressed or closed. One or two strands of wire are automatically wrapped around the bundle, the wire is twisted and cut. The wire tied bundle is released and the next bundle is conveyed into position.

The electrical system of the machine was revised so that the range of different ties could be increased. The Wiretyer can either be hand fed or equipped with conveyors for automatic operation. It is equipped to handle up to 1800 bundles per hr. The height of the feed table was also changed to 33 in. to conform to the height of existing conveyors.

Wallastar Bundler

An improvement in the Wallastar Automatic Bundler affecting the wire feeding mechanism was reported by A. E. Katz, Project Engineer of the Toronto Star, Ltd. Round wire fed into the machine is flattened by the machine before being wound around the bundle. According to Katz, this feature provides a saving of up to 35 per cent less footage of wire per package tie.

The wire is formed around a tightly compressed package to avoid cutting of papers. The wire used is 15 ga. which is flattened and stretched 15 per cent.

The Wallastar machine is designed to accommodate bundles from 2½ in. to 22 in. high. Tying speed is 24 tied bundles per min. The automatic bundle feed performs the operation of positioning each bundle so that each tie falls in the same place each time. Also, the tag end of the wire is now welded down to form the tie on the bundle. All machine dimensions remain as before.

Speedaumat Mailing Plates

A description of the Speedaumat mailing plates and machines was given by H. S. Woodland of Addressograph-Multigraph Corp. The Speedaumat plate accommodates five lines with 24 characters to a line. Plates are prepared by embossing on a standard typewriter keyboard Graphotype machine. Special cabinets are designed for holding 25,000 plates, 360 plates to a drawer.

Strip lists may be run from 8400 to 12,000 i.p.h. Direct margin imprints can be produced from 3000 per hr., when hand feeding, up to 12,000 per hr. on automatic machines. Addressing of newspapers, envelopes, cards and mailer strips may be handled on the same machine. Also other forms can be imprinted for renewal efforts and accounting.

The basic Addressograph method of handling the distribution of newspapers is as follows: A large Addressograph plate is prepared with at least two styles of type on it—the town, address and draw in very large type—street addresses and dealers' names in smaller type.

Large type is used on the town address because many times bundle labels must be read in dim light on mail trains and on station platforms. Addressograph machines can be equipped with strip listers so that labels can be prepared in mailer strip form, run through hand mailers and pasted on these wrappers for bundles. These strips can also be cut and pasted onto wrappers from automatic machines. Individual bundle wrappers can be automatically fed and imprinted with all the information for the separate bundles. The same plates can be used to run blotters or galleys and for imprinting bill headings.

Overhead Paper Conveyor

The Monorail Overhead Paper Conveyor system in operation in the mailing room of the Des Moines (Ia.) *Register-Tribune* was described with the aid of a

(*Continued on Page 80*)

Patents

For The GRAPHIC ARTS

Covering patents issued November 4, 11, 18, 25, 1952.

All new patents for the Graphic Arts are reported exclusively for Printing Equipment Engineer by Invention, Inc., an industrial patent research organization in Washington, D. C. Invention, Inc., presently has the only staff in the country that examines, in the U. S. Patent Office, the complete printed copy, drawing by drawing and page by page, every one of the several hundred new patents issued each week. Printing Equipment Engineer is the only trade publication in its field offering a report based on this complete coverage. For copies of the patents listed here specify the patent numbers and send 25c for each separate patent, or 10c for each trade mark or design patent (stamps not accepted) to the Commissioner of Patents, Washington, D. C.

Composing Room Equipment:

2,616,330. APPARATUS FOR PHOTOGRAPHICALLY COMPOSING TEXT MATTER composes original characters into justified lines of text matter and composes the lines into page form. The individual characters are selected for exposure from a master plate, and the movements of the carrier on which the lines of the text matter are composed are controlled by a previously prepared record-strip. It facilitates proof correction and make up. The corrected lines are substituted in the uncorrected text by a feed clutch means which feeds the line strip longitudinally and intermittently. More than two perforated film strips may be used. The films are positioned, viewed and photographed at the same time. Invented by George Westover, London, England. Unassigned. Application August 6, 1947 in Great Britain August 8, 1946. 5 Claims.

Feeding, Folding, Delivery:

2,617,606. METHOD OF REWINDING PAPER CORE WASTE that remains on a spent supply roll of printing paper eliminates waste of such paper. The method provides for moving a succession of supply rolls about a common axis into position so that a web of paper may be fed from each roll in turn to a printing press, then, after the bulk of paper has been unwound from the core of the first roll, the core of that roll is moved with the unwound paper on same out of feeding position, a fresh roll of paper is moved into feeding position, and a spare roll of paper is moved into position to replace the fresh roll after that roll has been substantially spent, then the end of unwound portion of paper remaining on the core is spliced to the paper on spare supply roll and it is rotated to wind paper from spent roll. Invented by Marvin C. Whatmore, Norwalk, Conn. Unassigned. Application February 27, 1952. 1 Claim.

2,617,607 and 2,617,608. WINDING MACHINES are designed to make the work of an operator easier when shifting a new roll of paper into place as a spent roll needs replacing. A motor is used to accomplish the lifting and lowering operations previously brought about under manual control by the use of a foot treadle and linkage connecting the treadle with the pivot shaft which is usually used to control the riding roller and which is connected to same by a pair of arms which extend from the pivot shaft and carry the bearings for the roller. The riding roller is part of a weighted system which is effective on the pivot shaft and causes the riding roller to exert pressure on a roll of material. Means are included for preventing the slipping or falling of the riding roller. Invented by Thomas N. Carter, Bayside, N. Y., and Alexander D. Frascella, Brooklyn, N. Y. Assigned to Cameron Machine Co., Brooklyn, N. Y. Application December 23, 1949. 6 and 7 Claims, respectively.

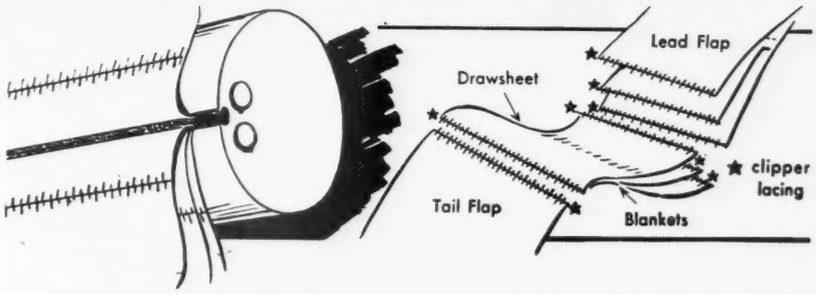
2,617,610. WEB TENSIONING MECHANISM FOR USE ON PRINTING MACHINES uses a new control for a web tensioning device of known form. Such control has a pivoted support, an electric switch to control actuation of the web tension regulator, and a switch-operating component pivotally mounted on the support at a point remote from the pivot of the support. The switch operator has a cam switch-operating surface adapted to engage the switch in the region of the pivot of the support. The switch operator is coupled to the web responsive component for movement with same. Invented by Thomas R. Bennet, Kingsbury, London, and Claude E. Willis, Norbury, London, England. Assigned to R. Hoe & Company, Inc., New York, New York. Application March 8, 1950 in Great Britain March 14, 1949. 3 Claims.

2,617,647. PAPER-HANDLING MACHIN-

Good News!

NOW

"TINGULOK"



Tingue, Brown & Co., who developed Foundation, Cushion Cork, Tingucork, Top Drawsheet, and Combino, now offer TINGULOK—the easiest, fastest, and most efficient way to apply these famous packings.

Practically all presses can be adapted to use TINGULOK by replacing the present bibs and flaps in your blanket cylinders with TINGULOK flaps. Reels are not removed to do it.

The TINGULOK blankets are shipped to you with attachment on them. All that is necessary to blanket the press is to insert the wire, reel in the flap and they are on. With the TINGULOK system there's no punching, pinning, or stapling . . . and no skinned knuckles!

Tingue, Brown Coated Tympan Paper (Coating by The Carborundum Company, Niagara Falls, New York.) .014 gauge Roll Widths of 24″, 32″, 36″, 42″ and 48″ or Cut Sheets. It assures the most perfect register and the lowest cost of production in runs in excess of 50,000.

TINGUE, BROWN & CO.

723 E. Washington Blvd.
Los Angeles 21, Calif. PRospect 6023

507 Bishop Street, N.W.
Atlanta, Georgia ATwood 3864

1227 Wabash Avenue
Chicago 5, Illinois HArrison 7-0083

1765 Carter Avenue
New York 57, N. Y. CYpress 9-8800

CANADIAN SALES AGENTS ROSS WHITEHEAD & CO. LTD., MONTREAL, CAN.

ERY is for use with the "Cleveland Modle-K Folder" and similar machines for preparing "signature". It is designed to avoid trapping of air between stacked sheets or signatures and to eliminate the displacement and wrinkling of paper and jamming of machinery that results from such air traps. An electrically-actuated stop is movable into and out of the path of sheets carried on a table for respectively blocking and releasing the sheets. A switch controls the stop and is positioned on the table in advance of the stop. Switch is adapted to be actuated by the moving sheets for operating the stop and a selector switch is associated with stop-controlling switch and may be manually set to either operate with successive sheet-feed or alternate-feed. Invented by Kenneth M. Davis, Washington, D.C. Unassigned. Application March 24, 1949. 11 Claims.

2,618,479. SHEET TRANSFER MECHANISM is for a sheet fed printing press. A sheet carrying impression cylinder is provided with sheet engaging grippers. An oscillating transfer gripper mechanism includes sheet engaging elements for grasping registered sheets and transferring them to the grippers. Driving means, which oscillate the transfer gripper mechanism, associate with an oscillating cam for opening and closing the elements and grippers. Invented by Henri E. Peyrebrune, River Forest, Illinois. Assigned to Miehle Printing Press and Manufacturing Company, Chicago, Illinois. Application August 3, 1948. 7 Claims.

Is a specialist in TYPE METALS really a better supplier for YOU?

There is a theory that a man who specializes in mousetraps will build better mousetraps than one who makes merely wood or metal products. This is the narrow view of the self-conscious specialist.

Others say, "Specialists are those who know more and more about less and less," which invites the conclusion that the greatest specialist of all must be he who knows everything about nothing.

Federated believes that the hundreds of products of non-ferrous origin have a basic family resemblance, and that the more we know about all, the more we know about each. Thus lead is found with silver and antimony, and copper and tin are found with iron. These various elements and others must be separated and refined, or in some cases, discarded. Then, re-combined in different ways, sometimes alone, sometimes with other non-ferrous ingredients, they make brass, bronze and aluminum ingot; solders and type metals; die casting alloys, lead products and bearing metals; anodes for plating and for cathodic protection.

Federated's competent organization of scientists and technicians, and its widespread field force of servicemen, are unified under the central policy of producing quality products and making these products most useful to every Federated customer from the one-man shop to the largest plant in the country.

We count it an advantage to our customers that Federated's organization is big enough to specialize in quality control and service from the depths of the mine to the user's shop. It is one of the reasons that Federated is known as "Headquarters for Non-ferrous Metals."

Federated Metals Division

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Aluminum and Magnesium, Babbitts, Brasses and Bronzes, Anodes, Die Casting Metals, Lead and Lead Products, Solders, Type Metals

2,619,027. AUTOMATIC FEEDER FOR FEEDING MATERIAL OR ARTICLES THROUGH MACHINES. An automatic apparatus for feeding bundles of newspapers through a baling machine comprises in combination with the machine a roller slot conveyor terminating adjacent the machine. It has a series of bodily movable rollers each independently rotatable. A brake shoe is arranged beneath the machine and imparts positive rotation to the rollers of the conveyor adjacent the machine to accelerate material being fed along the conveyor into the machine. The controls are actuated by the entry of material into the machine for effecting the release of the roller rotating means from rotating the rollers for an interval while the material is in the machine. The stop means is operated upon movement of the material out of the machine to return to its operative position. Invented by Thomas R. Sykes, Toronto, Ontario, Canada. Application April 8, 1948 also in Canada. 17 Claims.

Platemaking:

2,618,073, A SCORCHER FOR STEREOTYPE MATS has a reticulated surface with which the mat is in contact. A finger or feeler follows one or both edges of the mat and when a predetermined point has been reached, the mat is clamped to the scorcher. It is clamped by air pressure resulting from the increased vacuum created on the back of the reticulated surface. A solenoid operates a relief valve which is closed when the predetermined shrinkage point is reached, thus increasing the vacuum. Invented by Raymond Finzer, Hoosick Falls, New York. Unassigned. Application July 30, 1951. 7 Claims.

2,618,551. DEVELOPER FOR ELECTROSTATIC IMAGES. An electroscopic powder such as a mixture of 20 parts of a phenol-formaldehyde resin and 1 part carbon black is ball milled, fused, cooled and broken to 16 mesh particles. These are then micropulverized to 1-20 microns. After incorporation with a carrier of glass or steel beads which serves to generate triboelectric charges to the powder, the powder is applied to a plate which has been charged electrostatically and exposed to receive a latent image. The powder develops the image and the major part of it is then removed from the plate, leaving only those particles which are attracted and retained by the charged area. Invented by Lewis Walkup, Columbus, Ohio. Assigned, by mesne assignments, to The Haloid Company, Rochester, New York. Application October 20, 1948. 13 Claims.

2,618,552. DEVELOPMENT OF ELECTROPHOTOGRAPHIC IMAGES. A powder image is produced on an electrically charged image by transporting within the attraction range of charged image particles of insulated attractable pigmented powder of .1 to 20 micron size carried on equidimensional 30 to 60 mesh granular particles having less attraction for the pigment than the charged image. The mixed particles are rolled over the image and the pigment is retained on the image areas to produce the superimposed powder image. Invented by Edward N. Wise, Columbus, Ohio. Assigned, by mesne assignments, to Battelle Development Corporation, Columbus, Ohio. Application July 18, 1947. 2 Claims.

For Patent Research in the U. S. Patent Office, or a prompt estimate on any type of search, address INVENTION, INC., Munsey Bldg., Washington, D.C.

2,618,733. RADIO FREQUENCY DRYING DEVICE is used for drying of mats such as are used in the newspaper industry. It utilizes a plurality of electrodes energized with radio frequency energy. The electrodes are moved apart to insert or remove the mats to be heated. The electrode moving means comprises pairs of arms pivotally mounted to the electrode and to the frame of the drying device, and other arms pivotally linked to the electrodes, and with their opposite ends pivotally connected together. Invented by Buckley R. Reed, Newton, and Arnold H. Crowley, Waltham, Mass. Assigned to Raytheon Manufacturing Company, Newton, Mass. Application October 26, 1948. 3 Claims.

2,619,004 INSPECTION DEVICE determines the height of highlight dots on photo-engraved plates. It comprises an elongated casing which includes a plane bottom surface and a top member spaced therefrom, having a low center of gravity. A magnifying optical system is carried by the top member and the bottom surface is provided with an aperture in the field of the optical system. A source of illumination is housed in the casing and a lens for projecting a beam of collimated light into the aperture and against the sides of the highlight dots of the plate to be inspected at an angle of about 31 degrees, 15 minutes, to the axis of the magnifying optical system. The shadows of the highlight dots are determinative of the height of the dots. Invented by Brian O'Brien, Jr., Easton, Pa., and Clarence M. Flint, Chappaqua, New York. Assigned to Research Corporation, New York, N. Y. Application August 18, 1950. 1 Claim.

2,619,418. XEROGRAPHIC PLATE HOLDER. An electrophotographic member comprises a vitreous selenium-coated conductive plate of size suitable for documentary copying. The plate has a surrounding frame adapted for xerographic processes and having increased resistance to damage. The frame has a slot at one end and communicating grooves to receive a light shield through the slot above the electrophotographically-sensitive surface of the plate. Opposite the slot, a rear frame member receives the end of the shield in abutment. The inside faces of the side frame member have shoulders between plate and grooves for deflecting particles away from groove openings. Invented by Clyde R. Mayo, Rochester, New York. Assigned to The Haloid Company, Rochester, New York. Application December 30, 1950. 3 Claims.

Printing Presses and Equipment:

2,617,356. PRINTING ROLLER TESTING DEVICE provides a frame which carries rollers for testing a strip of paper. It has a doctor blade positioned ahead of the rollers and adapted for contact with the surface of the impression cylinder. Ink is applied to the impression cylinder and the device is moved manually so that the doctor blade engages the ink and spreads it. One of the rollers carried by the frame directly follows the blade and movement of this roller over the surface the strip of paper to become imprinted with the ink and the surface of the impression cylinder. By observation of the paper it can be determined whether ink is the proper color and consistency. Invented by Leonard S. Meyer, Newark, Ohio. Unassigned. Application March 1, 1950. 2 Claims.

2,619,033. CYLINDER DRIVE AND ADJUSTING MEANS FOR ROTARY PRINTING MACHINES. Each pair of impression cylinders and coacting engraved rollers are rotatably supported between spaced end supports in such a manner as to be situated along the perimeter of a semicircle. The impression cylinders are rotatably attached in a fixed position along the perimeter while the coacting engraved rollers are rotatably and adjustably attached. A prime mover is mounted between the end supports and furnishes power to the engraved rollers through driven shafts which are both longitudinally and rotatably adjustable. The longitudinal adjustment permits the use of an engraved roller of any diameter equipped with any gear and reduces vibration and noise from backlash, to a minimum. The rotary adjustment permits bringing any engraved roller into proper registry from a central point even while the machine is run-

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ning. The machine is particularly for printing multicolor patterns on vinyl plastic films. Invented by Frank Lembo, Fair Lawn, N. J. Unassigned. Application December 10, 1949. 6 Claims.

Paper Moved by Barge

Paper stock for Time, Inc., publishers of *Time*, *Life* and *Fortune*, is transported from Maine to Illinois entirely by water on a special barge designed by the Dravo Corporation. Capable of carrying 2000 T. of paper each trip, the vessel is 211 ft. long, 43 ft. wide and 16 ft. deep. Its cargo hold is equipped with rolling water-tight hatch covers designed to safeguard the paper. A reduction in the number of times the rolls of paper have to be handled has eliminated other damage hazards. On 1600 mile trips to Chicago from Bucksport, Me., the barge is towed or pushed down the Atlantic Coast, up the Hudson River, through the New York State Barge Canal and across three of the Great Lakes to Chicago.

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Conference Dates

(With Organization Names and Principal Officers)

American Photoengravers Association – 1953 Convention, Hotel Statler, Boston, October 12, 13 and 14. President, D. H. Murnik, Oakland National Engraving & Gravure Co., Oakland, Calif.; Frank J. Schreiber, Executive Secretary, 166 W. Van Buren St., Chicago 4, Ill.

ANPA Mechanical Conference—1953 Conference, Milwaukee, Wis., June 15, 16, 17 and 18. Conference sessions and exhibits to be held in Civic Auditorium; Conference headquarters, Hotel Schroeder. Chairman of the Committee, William E. Gibbons, Production Mgr., Chicago (Ill.) *Herald-American;* Manager ANPA Mechanical Dept., Vernon R. Spitaleri, 370 Lexington Ave., New York 17, N. Y.

Fifth District Craftmen's Conference – 1953 Conference, Olds Hotel, Lansing, Mich., June 26 and 27. Secretary-Treasurer, Robert Wolf, Richardson-Taylor-Globe Co., 4501 Mitchell Ave., Cincinnati 32, O.

Graphic Arts Trade Association Executives—President, Robert Hostetter, Printing Industry of Pittsburgh, 3124 Jenkins Arcade Bldg., Pittsburgh 22, Pa.

Gravure Technical Association—Secretary-Treasurer, J. E. Hazel, Room 4800, 30 Rockefeller Plaza, New York 20, N. Y.

Great Lakes Newspaper Mechanical Conference—1954 Conference, Claypool Hotel, Indianapolis, Ind., January 10, 11 and 12. President, Horace Parker, Mechanical Supt., Richmond (Ind.) *Palladium-Item;* Secretary-Treasurer, Don Clark, Stereotype Supt., Grand Rapids (Mich.) *Press;* Chairman Mfrs. and Suppliers Committee, Joseph W. Kaercher, Linotype Representative, 5311 Broadway, Indianapolis, Ind.

Illinois Newspaper Mechanical Conference—1953 Conference, Hotel Jefferson, Peoria, Ill., September 26 and 27. President, Thomas Lowry, Peoria (Ill.) Newspapers, Inc.; Secretary-Treasurer, Wilbur L. Augspurger, Peoria (Ill.) Newspapers, Inc.

Intl. Assoc. Electrotypers & Stereotypers—1953 Convention, Statler Hotel, Detroit, Mich., September 22, 23, 24 and 25. 1953 Spring Conference, Hotel William Penn, Pittsburgh, Pa., April 13 and 14. President, Walter C. Dohm, Norman-Dohm-O'Flaherty Co., Inc., 228 E. 45ht St., New York, N. Y.; A. P. Schloegel, Executive Secretary, 701 Leader Bldg., Cleveland 14, O.

International Association of Printing House Craftsmen – 1953 Convention, Adolphus Hotel, Dallas, Tex., September 13, 14, 15 and 16. Convention in 1954 to be held in Philadelphia, dates to be announced. President, Gordon J. Holmquist, Cole-Holmquist Press, 1228 S. Flower St., Los Angeles 15, Calif.; Executive Secy., Pearl E. Oldt, 18 E. Fourth St., Cincinnati 2, O.; Convention Chairman, Homer L. Green, Wilson Engraving Co., 2117 Commerce St., Dallas 1, Tex.

International Graphic Arts Education Association — 1953 Conference, Statler Hotel, New York, N. Y., June 14, 15, 16 and 17. President, Patrick F. Boughal, New York (N. Y.) School of Printing; Acting Educational Director, Fred J. Hartman, 719 Fifteenth St., N. W., Washington 5, D. C.

International Typographic Composition Association — 1953 Convention, Mayflower Hotel, Washington, D. C., September 24, 25 and 26. President, John R. Connell, Connell Typesetting Co., 302 E. Eighth St., Kansas City 6, Mo.; Frank M. Sherman, Executive Director, 1015 Chestnut St., Philadelphia 7, Pa.

Iowa Daily Newspaper Mechanical Conference—1953 Conference, Hotel Fort Des Moines, Des Moines, Ia., May 16, 17 and 18. President, Glen Meloy, Des Moines (Ia.) *Register-Tribune;* Secretary-Treasurer, Paul F. Kamler, Mechanical Supt., Clinton (Ia.) *Herald.*

Kansas Newspaper Mechanical Conference —1953 Conference, Town House, Kansas City, Kan., September 12 and 13. President, William Lawrence, Wichita (Kan.) *Eagle;* Secretary-Treasurer, Larry Miller, Kansas Press Assoc., 701 Jackson St., Topeka, Kan.

Lithographers National Association — 1953 Convention, Edgewater Beach Hotel, Chicago, June 17, 18 and 19. President, William H. Walters, United States Printing and Lithograph Co., Mineola, L. I., N. Y.; Executive Director, W. Floyd Maxwell, 420 Lexington Ave., New York 17, N. Y.

Mid-Atlantic Mechanical Conference—1953 Conference, William Penn Hotel, Pittsburgh, Pa., March 12, 13 and 14. Jointly sponsored by the New Jersey Press Assoc. and the Pennsylvania Newspaper Publishers Assoc. Conference Director, Theodore A. Serrill, PNPA General Mgr., 209 Telegraph Bldg., Harrisburg, Pa.

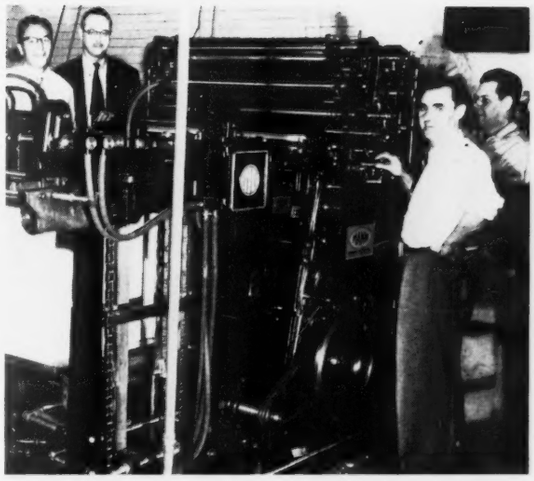
Missouri Newspaper Mechanical Conference—Secretary-Treasurer, O. K. Hammitt, Mechanical Supt., Moberly (Mo.) *Monitor-Index.*

National Association of Litho Clubs — 1953 Convention to be held in Detroit during month of May, exact dates and hotel to be announced later. President, John F. Maquire, Offset Engravers, 42 E. 20th St., New York, N. Y.; Secretary, Angelo Pustorino, Daniel Murphy Co., 480 Canal St., New York, N. Y.

National Association of Photo-Lithographers—1953 Convention, Sheraton Hotel, Chicago, October 28, 29, 30 and 31. President, A. J. Fay, 75 Varrick St., New York, N. Y.; Executive Vice President, Walter E. Soderstrom, 317 West 45th St., New York 36, N. Y.

National Printing Equipment Association, Inc. — 1953 Meeting to be held during Printing Industry of American Convention, tentatively set for Shoreham Hotel, Washington, D. C., November 16-19. Exact date of meeting to be announced later. President, Fred S. Tipson, T. W. & C. B. Sheridan Co., 135 Lafayette St., New York 13, N. Y.; James E. Bennet, Secretary, 140 Nassau St., New York 38, N. Y.

New England Mechanical Conference — 1953 Conference, Hotel Statler, Boston, October 17 and 18. Charles W. Noonan,



Installs Third ATF Unit —The installation of this ATF-Mann offset press was third ATF unit to be acquired by Modern Litho Print Co., Jefferson City, Mo. The single color press takes a 23 in. by 36 in. sheet. Shown with the new press are, from left to right: Anton Hiesberger, Owner of Modern Litho Print; E. Kennedy Whitesitt, ATF Representative; Edward C. Gallon, Mann Erector; and Hubert Wolken, Pressman.

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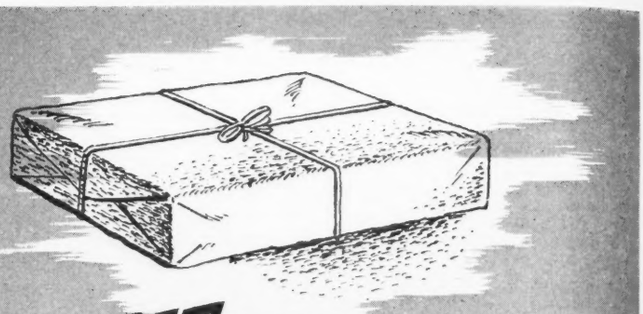

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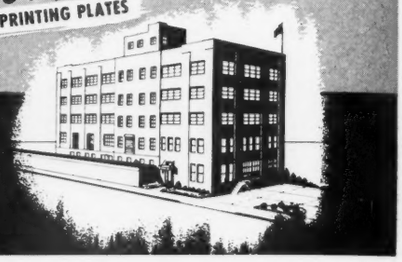

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Pressroom Supt., Providence (R. I.) *Journal-Bulletin;* Secretary-Treasurer, Walter C. Crighton, Comp. Room Supt., New London (Conn.) *Day*.

Northwest Mechanical Conference — 1953 Conference, Hotel St. Paul, St. Paul, Minn., March 7, 8 and 9. President, Robert E. Lee, Composing Room Supt., St. Paul *Dispatch* and *Pioneer Press;* Secretary-Treasurer, Ralph Carson, Dunwoody Industrial Institute, Minneapolis, Minn.

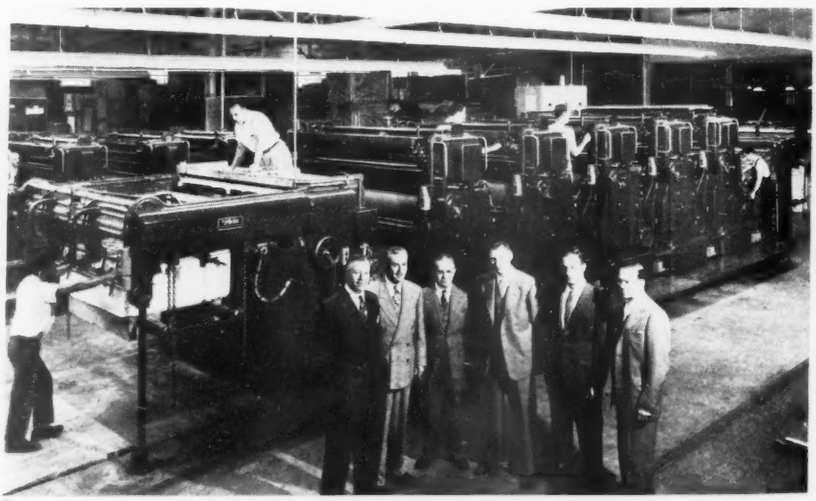
Pacific Mechanical Conference — 1953 Conference, Statler Hotel, Los Angeles, September 25, 26 and 27. President, Al Tennyson, Composing Room Supt., Los Angeles *Times* and *Mirror;* Secretary for the North, Edw. N. Conley, color press foreman, San Francisco *Chronicle;* Secretary for the South, Fred J. Moyer, Los Angeles *Daily News*.

Printing Industry of America—1953 Convention (tentative), Shoreham Hotel, Washington, D. C., November 16, 17, 18 and 19. President, John M. Wolff, jr., Western Printing & Lithographing Co., Southwestern Div., 1310 S. Spring St., St. Louis, Mo.; James R. Brackett, General Manager, 719 Fifteenth St., N. W., Washington, D. C.

Research and Engineering Council of the Graphic Arts Industry, Inc. — 1953 Membership Meeting, tentative dates, May 14 and 15, St. Paul Minn., hotel to be announced later. 1954 meeting, May 11 and 12; 1955 meeting, May 12 and 13, city and hotel to be announced later. President Edward J. Triebe, Kingsport Press, Kingsport, Tenn.; Official Headquarters. Bernard J. Taymans, Managing Director, 719 Fifteenth St., N. W., Washington 5, D. C.

Screen Process Printing Association—1953 Convention, Statler Hotel, New York, November 1, 2, 3 and 4. President, Joseph Grossman, Masta Displays, Inc., 230 W. 17th St., New York 11, N. Y.; Secretary, Dan Novak, 549 W. Randolph St., Chicago 6, Ill.

SNPA (Eastern Div.) Mechanical Conference — 1953 Conference, Henry Grady Hotel, Atlanta, Ga., August 24 and 25. Conference Chairman, C. Leroy Ray, Mechanical Supt., Winston-Salem (N. C.)



Five-Color Offset Press—A Miehle No. 76 five-color sheet fed offset press is now in operation at the H. S. Crocker Co. plant in San Bruno, Calif. The press will accommodate a 52 in. by 76 in. sheet at speeds up to 6000 i.p.h. The press is shown above on one of its early runs with Crocker and Miehle officials standing by. From left to right: Jack Eddy, Miehle President; Ed Le Vesconte, Crocker Vice Pres.; Henri Peyrebrune, Miehle Vice Pres.; Galen Potter, Crocker Vice Pres.; Richard Kauffman, Crocker Exec. Vice Pres.; and Phelps Kelley, Miehle Vice Pres. The Crocker firm also operates two Miehle four-color offset presses, one in its San Bruno plant (seen in background) and the other in its Baltimore, Md., plant.

Journal and *Sentinel;* Secretary, Ray B. Crow, Southern Newspaper Publishers Assoc., P. O. Box 1569, Chattanooga 1, Tenn.; Chairman of Mfrs. and Suppliers' Group, W. E. Neely, Sam'l Bingham's Son Mfg. Co., 274 Trinity Ave., S. W., Atlanta, Ga.

SNPA (Western Div.) Mechanical Conference—1953 Conference, Texas Hotel, Ft. Worth, Tex., March 8, 9 and 10. Chairman, Frederic R. Rice, Little Rock (Ark.) *Democrat;* Secretary, Walter Johnson, jr., P. O. Box 1569, Chattanooga 1, Tenn. Chairman of Supply Men's Committee, Edwin Yagow, Goss Printing Press Co.

Technical Assoc. of the Graphic Arts — 1953 Meeting, Wardman Park Hotel, Washington, D. C., April 27, 28 and 29. President, John McMaster, Graphic Arts Div., Eastman Kodak Co., Rochester, N. Y.; Secretary-Treasurer, Paul J. Hartsuch, Printing Ink Div., Interchemical Corp., 161 W. Harrison St., Chicago 5.

EXECUTIVE Cs

R. N. Schneider is the new field representative for the Printing Equipment Div., Hamilton Mfg. Co., according to a recent announcement by Roger L. Perry, Sales Mgr. Schneider, a 1951 graduate of Marquette University, has been associated with Hamilton for the past 15 months. During this period he has been located at the home office in Two Rivers, Wis.

C. Brenton Cook, Vice Pres. and Director of the Elwell-Parker Electric Co. and a pioneer of the industrial truck industry, has announced his retirement. Cook is known for his participation in the development of the small gas turbine and the first Overland gas engine. He joined the Elwell-Parker firm in 1914 as Cleveland District salesman. He established the sales, advertising and export departments of the company, has been manager of sales promotion and advertising since 1915, and was named export manager in 1921.

Kenneth L. Moses and Andrew H. Cochran have been appointed Sales Representatives of the Wrenn Paper Co., according to an announcement by J. J. Hallowell, President. Their territories will include the states of Washington, Oregon, California, Arizona, Utah, Idaho and Nevada. Moses and Cochran will make their headquarters at present offices located at 810 S. Spring St., Los Angeles 14, and 55 New Montgomery St., San Francisco.

A. Stewart Murray has been appointed Chief Engineer of SKF Industries, Inc. Murray, a graduate of Carnegie Institute of Technology, will make his headquarters at SKF's main plant in Philadelphia.

Judson A. V. Hyatt has joined Fairchild Camera and Instrument Corp. where he will be in charge of market evaluation and assistant to C. A. Harrison, Vice Pres. in Charge of Commercial Sales. Hyatt's duties will be to study market applications for new models of the Scan-a-graver. He is a graduate of Columbia University.

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Tingue Foundation Molding Blankets, .062, .083
Tingue Combino Molding Blankets, .083, .093
Red Fibre Slip Boards, .032

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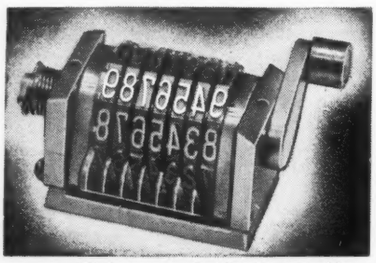

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Howard Vultee has been elected a Director of Sun Chemical Corp., it has been announced by George W. Ullman, Chairman of the Board. Vultee is also Vice Pres. of the Marine Midland Trust Co. of New York and Vice Pres. of the Marine Midland Corp.

W. G. Sulzer, jr., (left) has been appointed IPI Branch Mgr. in Richmond, Va., succeeding John Osias (right), retired. The announcement was made by

Robert Kuhn, Vice Pres., Printing Ink Div., Interchemical Corporation, who added that Osias will continue in a sales and advisory capacity. Mr. Osias has been manager of the IPI branch in Richmond since 1936. He is also Fourth District Representative of the Intl. Assoc. of Printing House Craftsmen. Sulzer joined IPI in 1937 after attending the University of Virginia and the University of Cincinnati. He has been associated with the Cincinnati and Dayton, O., branches of the IPI organization.

Louis C. Edgar, jr. (shown here) has been appointed Executive Vice Pres. of American Type Founders, Inc., according to an announcement by E. G. Williams, President. At the same time, Williams announced the elevation of Milton J. Goger to Vice Pres. and Comptroller. Edgar has been vice president of Daystrom, Incorporated, parent company of ATF. Goger was most recently assistant to the president of ATF.

Appointment of Ira J. Lipson, formerly comptroller of the E. P. Lawson Co. as Vice Pres. in charge of the firm's midwest operations, was announced by David W. Schulkind, President. Lipson was accompanied to his new headquarters, Lawson's Chicago office, by William J. Cocoros, newly appointed Sales Representative for the Wisconsin area.

Edward Schirmer has been appointed Central District Sales Mgr. of the Ink Div., J. M. Huber Corp., according to J. S. Hart, Vice Pres. Schirmer's offices will be located at 59 E. Van Buren St., Chicago. He joined Huber in 1946, and during the past 18 months has been assistant general manager at Division Headquarters in Brooklyn, N. Y. He is a graduate of Yale University.

The appointment of Andrew C. Perrin to the newly-created post of West Coast District Sales, Mgr. of Reliance Electric & Engineering Co. was announced recently by E. E. Helm, Sales Vice Pres. A sales application engineer operating out of the company's Chicago office for the past six years, Perrin will make his headquarters in San Francisco. Keith E. Carter, Sales Engineer in Pittsburgh since 1950, has been transferred to the company's Chicago office to take over Perrin's former duties. Replacing Carter in the Pittsburgh area is J. Edward House, jr., who has been attached to Reliance's applied engineering and industry sales staff in Cleveland for the past two years.

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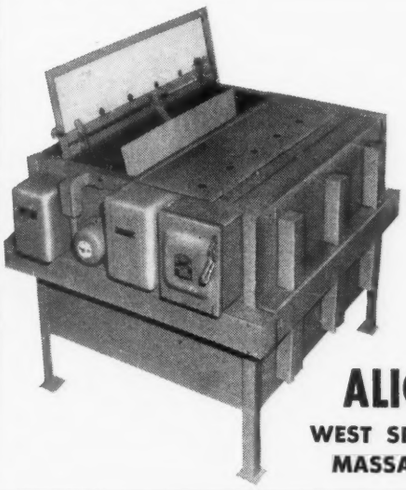

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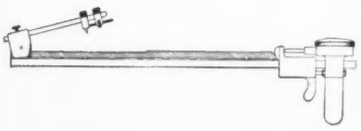

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Mrs. Annie Mae Hollingsworth, an employee of the Longview (Tex.) *Daily News* and *Journal* for the past eight years, has been elected President of the Longview Typographical Union No. 742, composed of printers of Longview and nearby Gladwater. Mrs. Hollingsworth succeeds L. C. Ritter, who did not seek re-election. She has also been associated with the Mount Pleasant (Tex.) *Times-Review* and Titus County (Tex.) *Tribune*.

McHenry Browne, who has been General Mgr. of the Boston *Post* since November of last year, has announced appointment of Stanley Day as Mechanical Supt. Day had been associated with Hearst Newspapers for many years, in the plant engineering department. For the past 12 years he has been Assistant to the Production Director of the Hearst organization. Day is well known among newspaper mechanical executives and manufacturer and supplier companies.

Frank Harris, has been appointed Factory Sales Representative for the Challenge Machinery Co., according to an announcement by E. Paul Babcock, Secretary and Sales Mgr. Harris joined the Challenge sales staff in November and will make his headquarters at the main office in Grand Haven, Mich. He was formerly with the St. Louis branch of Western Newspaper Union and was for five years associated with American Type Founders in Detroit and Minneapolis.

William K. Maxon has been promoted to the position of General Sales Mgr. of Heidelberg Eastern Sales Co. Maxon joined the Heidelberg firm in 1951. Previous to that he was associated with the Isaac Goldman Co., American Type Founders and Ernest Payne, Inc. He attended the New York School of Employing Printers and Spring Hill College. In his new capacity he will supervise Heidelberg sales activities, both for direct sales and authorized dealerships, north of Tennessee and North Carolina and east of the Mississippi River. He will alternate his headquarters between the parent office at Long Island City, N. Y., and the company's regional headquarters at Columbus, O.

William J. Strain, in charge of repairs and service for R. Hoe & Co., Inc., retired recently after more than 52 years

of service with the Hoe organization. Strain has worked in sales and as production manager with the company. Since 1910 he has been engaged in installation, service and repair of Hoe presses. Shown above is Joseph L. Auer (right), President of Hoe, presenting Mr. Strain (center) with a photograph of the bench lathe given to him by his fellow employees for his home workshop. A. Rudy Gresser, also of Hoe, who served as master of ceremonies, is at the left.

The Board of Directors of the William C. Herrick Ink Co. recently elected Harry L. Leyland as Vice Pres. in Charge of Southern Sales. Leyland has been associated with the Herrick company for 15 years and prior to his recent elevation was manager of the company's branch in Jacksonville, Fla. It was also announced by Millard C. Pintard, Executive Vice Pres., that William V. Jacobson has been appointed a member of the Herrick sales staff.

F. J. Meyer has been appointed Division Mgr., Heating Device Sales, Cutler-

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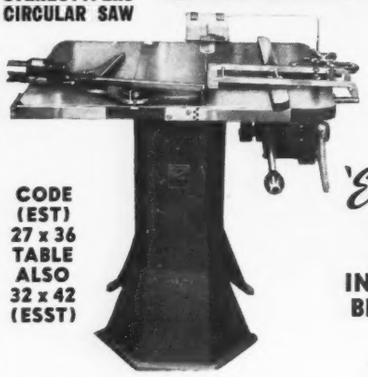

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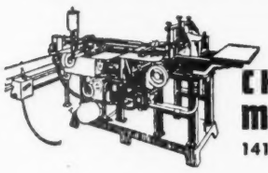

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Hammer, Inc., according to an announcement by P. S. Jones, Vice Pres. in Charge of Sales. Meyer joined Cutler-Hammer in 1949 upon graduating from the University of Wisconsin. Jones also announced the appointment of R. R. Smith as Division Mgr., Renewal Parts Sales. Smith has been associated with Cutler-Hammer since 1921.

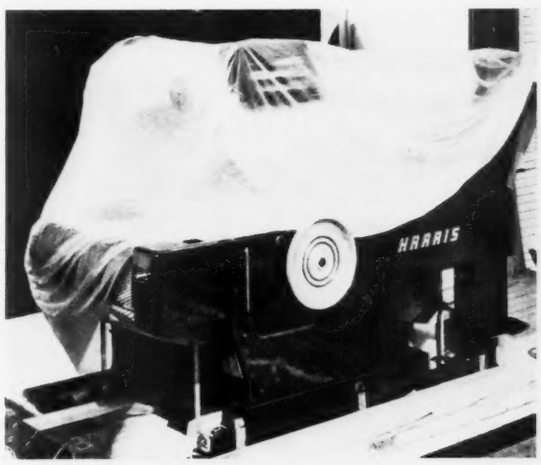
Henry F. Melen has been appointed Sales and Service Representative of the Banthin Automatic Cylinder Press, according to an announcement by John F. Banthin, President of Banthin Engineering Co. Melen's territory will include the metropolitan New York area. He most recently was connected with Western Newspaper Union. He will make his headquarters at 107 Ramblewood Ave., Great Kills, Staten Island, N. Y.

Many of our production executive readers will respond to your Position Wanted Ad in the Classified Section of *Printing Equipment Engineer*. Rates on p. 83.

Recent Equipment Reports

Rosback Installations

Recent installations of Rosback bindery equipment reported by the F. P. Rosback Co. are as follows: Auto-Stitchers—Connelly Press, Hot Springs, Ark. (installed by American Type Founders); Colorado Rulers & Binders, Denver, Colo. (installed by A. E. Heinsohn); M. B. Davidson Co., Inc., New Haven, Conn. (installed by American Type Founders); National Lithographing Co., Washington, D. C. (installed by Western Newspaper Union); Darlington (Ind.) *Herald* (installed by Davidson Sales & Service Agency); Valley Lithographing Co., Holyoke, Mass. (installed by Merit Printers Supply Co.); Lanterman Press, Saginaw, Mich. (installed by Western Newspaper Union); Bayport Printing House, Bayport, Minn. (installed by C. I. Johnson Mfg. Co.); Riegel Printing Co., Trenton, N. J. (installed by Northern Machine Works); C. P. Hoagland Co., Inc., Somerville, N. J. (installed by E. P. Lawson Co.); Active B



Plastic Covers Protect Machinery in Shipment—Harris-Seybold Co. has reported its smaller offset presses are being shipped in Vanant plastic covers packed with Angier V.P.I. vapor-inhibiting paper, as shown here. It is claimed the machinery under the protective covers is not affected by condensation or sharp temperature drops, thereby preventing rust from forming.

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& B Products Co., New York, N. Y. (installed by E. P. Lawson Co.); Reed & Witting Co., Pittsburgh, Pa. (installed by American Type Founders). "Twenty-two Special" Slot Rotary Perforators—Monte Vista (Colo.) *Journal* (installed by Western Newspaper Union); Fremont *Chronicle News*, St. Anthony, Id. (installed by A. E. Heinsohn); Coburn Co., Chicago (installed by Type & Press of Illinois, Inc.); Hutchens Bindery Co., Peoria Heights, Ill. (installed by Western Newspaper Union); F. N. Fehring & Son, Hammond, Ind. (installed by Kalamazoo Printing Machinery Co.); Knowlton & McLeary Co., Farmington, Me. (installed by Harris-Seybold Co.); Du-Processing Systems, Dearborn, Mich. (installed by Addressograph-Multigraph Corp.); Patterson Press, Flint, Mich. (installed by Western Newspaper Union); Howard Bindery, New York, N. Y. (installed by Zimmer Printers Supply Co.); Ruby-Will, Inc., Little Falls, N. Y. (installed by Western Newspaper Union); Star Bindery, New York, N. Y. (installed by Irving Nissenbaum); City of Hamilton, O. (installed by Addressograph-Multigraph Corp.); Press Publishing Co., Dayton, O. (installed by Kalamazoo Printing Machinery Co.); Ferguson Press, Crockett, Tex. (installed by E. C. Palmer & Co., Ltd.). Pony Vari-Speed Rotary Perforators—The Argus Co., Albany, N. Y. (installed by E. P. Lawson Co.); Kaufmann's Department Store, Pittsburgh, Pa. (installed by Harry Guckert Co.). Gang Stitcher—Esquire Press Corp., Pittsburgh, Pa. (installed by American Type Founders). 20 in. Modern Binding Punching Machine—Neyhart Printing Co., Pittsburgh, Pa. (installed by Harry Guckert Co.).

Paisley Buys Hayes Firm

Paisley Products, Inc., recently purchased the Hayes Adhesive Co. of St. Louis, Mo. The purchase included the assets of the firm, formulas, manufacturing processes and equipment. The Hayes plants in St. Louis will be operated as an affiliate of the Paisley firm. A portion of the Paisley manufacturing operations will be transferred to the newly acquired plants. Vernon Hayes, former head of the Hayes company, will continue as Manager of the St. Louis plants.

BOOKS

Pressman's Ink Log

PRESSMEN are provided with a means of classifying inks and filing formulae information developed for a specific color through the *Pressman's Ink Log* prepared by George M. Halpern. According to Halpern, it eliminates the need of memorizing complicated ink formulae. It also assures an accurate match of a color run previously for a customer.

The Log consists of a loose-leaf binder containing 50 printed information sheets. Notations are provided on these sheets for the customer's name; brands of ink used; the colors; proportions; addition of driers, varnishes and similar vehicles; kind of stock on which the job was printed; and actual printed samples of the completed color in swatch form.

In addition, there are ten color tab dividers which serve for identification purposes and classification of the various colors. A die-cut frisket completes the *Ink Log's* components. The frisket is used for tapping out samples of the mixed color on the information sheet as well as samples of the different inks which make up that color.

Pressman's Ink Log—by George M. Halpern. Book consists of 50 printed information sheets and ten divider tabs; size, 6¾ in. by 9 in.; hard loose-leaf ring binder with gold stamping. May be ordered from Bullinger's Guides, Inc., 303 Lafayette St., New York 12, N. Y. Price, $2.50 per copy.

Research Progress Reports

THE latest publication of the Research and Engineering Council is in the form of Bulletin MS-1, entitled *Reports on Research Progress*, 24 pages and cover. The text matter consists of reports made by a number of research, associa-

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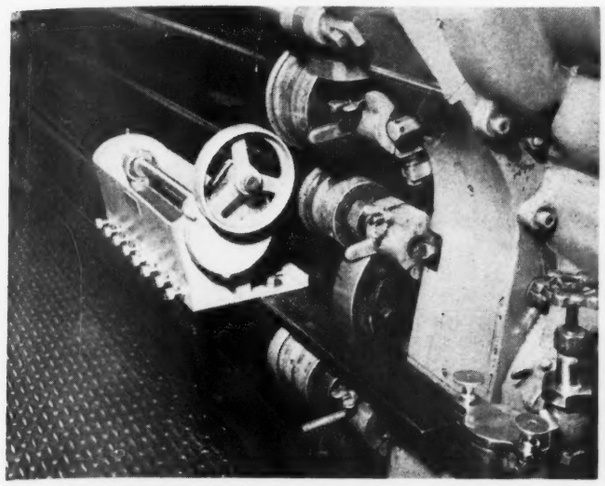

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tion and manufacturer executives regarding status of research activities of their associations or companies. The reports are printed as given at the second annual meeting of the Council in Rye, N. Y., December 1952. Those wishing to secure one or more copies may do so by addressing Research and Engineering Council, 719 Fifteenth St., N. W., Washington 5, D. C. Cost is $1 per copy.

Ink and Paper in the Printing Process

THE scientific approach to understanding the reaction of ink and paper during printing has been applied by Dr. Andries Voet in his 216 page book named *Ink and Paper in the Printing Process*. Dr. Voet is Director of Ink Research for the J. M. Huber Corp. In his own words he says the book is intended as an introduction to the physics and chemistry of ink and its interaction with paper in the major printing processes. It is written for the more experienced Graphic Arts craftsman or student with basic understanding of science.

The author provides the findings of scientific investigations carried out in recent years on the interaction of ink and paper. This work is divided into 18 chapters and two parts, one dealing with ink and presses while the other covers ink and paper.

Typical of the subjects discussed in Part I are Flow of Ink on the Press, Measurement of the Flow of Inks, Flow of Dispersions, Flow of Ink Between Parallel Plates, and Separation of Ink Films. Part II on ink and paper is more extensive, ranging from the Microscopy of Halftone Printing to Chemical Drying of Inks.

Of interest also to the advanced pressman in providing a better understanding of what takes place between ink and paper are the chapters on the Penetration of Ink into Paper, Print-Through, Ink Transfer, Picking of Paper, Offset and Properties of Lithographic Inks. Means of overcoming many of the prob-

Beck Honors 25 Year Employees—The Beck Engraving Co. of Philadelphia and New York recently inaugurated a 25 Year Club composed of employees with 25 years or more of association with the Beck firm. At a dinner for 280 workers of the Philadelphia plant, 79 became charter members of the 25 Year Club. Charles W. Beck, jr., Treasurer of the company and active in Beck management for 57 years, is shown above congratulating the long-term members. Seated, from left to right, are: E. T. Scowcroft, Secretary; C. Weston Beck, Chairman of the Board; George D. Beck, President; and Henry S. Yuhas, President. Spokesman for the 25 Year Club members was J. Linwood Horner who has a background of 44 years in the Beck Color Gallery. The members were presented with appropriately engraved gold wrist watches and lapel buttons.

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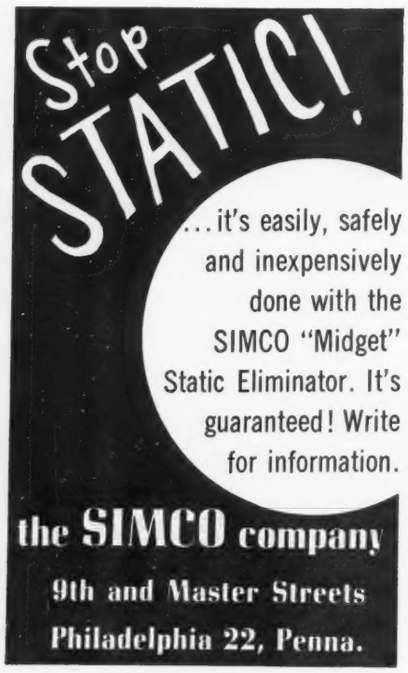
lems encountered in the different categories are set forth for the reader.

Dr. Voet states that he hopes the end result of his book will be to show that the old art of ink making is gradually maturing into a science. We believe it is now an accepted custom that printers entrust their ink making problems to trained technicians with thorough understandings of chemistry and physics. It is of benefit to the industry to have the printer realize what is involved when ink is put on paper. Author Voet has contributed invaluably in this respect.

Ink and Paper in the Printing Process—By Andries Voet. Book consists of 216 pages; size, 6 in. by 9 in.; hard bound cloth cover with red stamping. May be ordered from Interscience Publishers, Inc., 250 Fifth Ave., New York 1, N. Y. Price, $5.90 per copy.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Recognizes First Scan-a-Graver Installation—Bennett H. Fishler (left), Publisher of the Ridgewood (N.J.) *Herald-News*, is presented with the first charter membership in the Fairchild Scan-a-Graver Five Year Club by John H. Clough (center), President of Fairchild Camera and Instrument Corp. Recognition was accorded the *Herald-News* for its first installation of the electronic engraving machine on January 7, 1948. Also attending the ceremonies was C. A. Harrison (right), Fairchild's Vice Pres. in Charge of Commercial Sales.

Mailroom Machines

(Continued from Page 66)

movie by its Superintendent, Joseph Menard. The report here of Menard's remarks concerning the system supplements the information given by Bill Coddington, Mechanical Supt. at the *Register-Tribune*, which appeared in the January 1953 issue of *Printing Equipment Engineer*. The system was installed to carry newspapers from any press conveyor to the tying machines and also to conserve on floor space.

Two different methods of handling papers are employed at the *Register-Tribune*. The stacks of newspapers put on a movable belt go direct to the tying machine in unit bundles. These bundles have the same amount of papers in each bundle and carry no address. They can be used and thrown off at any place. The papers that are put on the overhead conveyor are used in counting out bundles that require an odd number of papers that have to be hand counted.

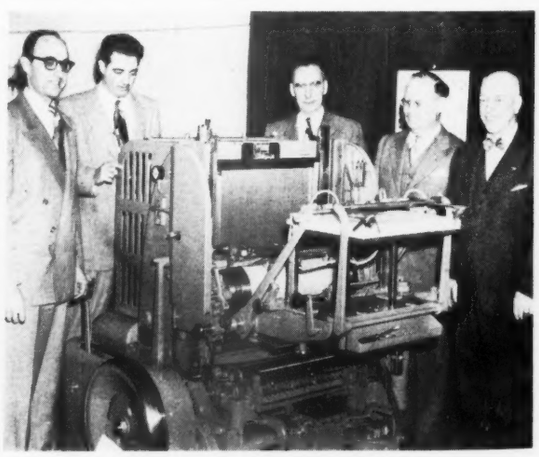
Such a system permits directing the newspapers to the tying machine where they are needed and saves trucking or carrying them through the room.

As the Sunday news sections are delivered from the presses, they are inserted before the paper is put on the overhead conveyors. As papers come from the presses they are distributed to two inserting machines and several hand inserters. They are placed on the carrier buckets as complete newspapers.

An advantage to such a conveyor system, according to Mr. Menard, is that the papers are delivered to the mailers without need for bodily turning or stooping. After the bundle is counted it is pushed a few inches onto the belt which carries it to the tying machine. The overhead conveyor is located over the middle belt to conserve on floor space. It can be stopped or started from several different locations in the room.

Engravers Discuss Etching Depths

AGREEMENT among the photoengraving executives in attendance at the Great Lakes Newspaper Mechanical Conference in Columbus, O., on January 12, that an etching depth of 0.005 in. produced the best results for molding, was the highlight of the Engraving Session. Chairman of the meet-



Kansas City Miehle Demonstration—A demonstration of the Miehle V-50 Vertical and No. 29 Offset presses was held recently in Kansas City by the Miehle Printing Press & Mfg. Co. The event was timed to coincide with the Printing Week celebration held in that city. Shown at the Vertical press on display is the Printing Week Committee for Kansas City. From left to right, are: M. Baer, Tension Envelope Co.; F. Steinman, Bruce, Brewer Co.; H. A. Hawley, Ti-Pi Company; L. Constable, Constable Bindery; and Alex Alberg, Manager, Unity School of Christianity's printing plant.

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ing was Richard V. Marsh, Engraving Supt., Columbus (O.) *Dispatch*. Marsh was assisted by Co-chairmen Richard M. Burger, Engraving Supt., Springfield (O.) *News-Sun*, and Earl Currise, Engraving Supt., South Bend (Ind.) *Tribune*.

A demonstration of bounced light used by news photographers to illuminate dark backgrounds when photographing subjects was given by Glenn Zahn, Chief Photographer of the Cleveland (O.) *Press*. Assisting Zahn were two pretty models who posed as subjects for a bounced light picture.

The speaker explained that in using this type of lighting, the photographer aims his flash at the ceiling or wall above the subject with the idea that the light created by the flash will bounce back onto the subject for greater illumination. The results, he added, are usually better detail in the person's faces. Zahn counseled, however, that to obtain the bounced lighting effect, ceilings should be of normal height and of a light color. Synchronizer or tripod open flash may be used.

Displaying examples of bounce light pictures, he showed the audience the comparison between using this method and one bulb shots. He also showed proofs of engravings along with the original photographic copy and posed the question as to why differences between the two occur. He concluded with the suggestion that engravers and photographers meet together for a round table discussion of problems confronted in individual plants.

Chairman Marsh spoke briefly on a series of tests run by the engraving department at the *Dispatch* in cooperation with the stereotype department to determine the proper etching depth for molding. The outcome of these tests showed that an etching depth of 0.005 in. produced better results than 0.007 in. and other depths tested. Ernie Scherer, Engraving Supt. at the Detroit *News*, commented that the 0.007 in. depth produced too fine a molding dot. He said that the *News* would rather use a strong 0.005 in. depth than any other.

Fred Uhl, Engraving Supt., Cleveland *Plain Dealer*, remarked that generally the engraver is doing a good job regardless of the different methods employed. He said that the subject of proper etching depths has come up before and added: "... you old timers know what's needed." He said that he didn't blame newcomers in the industry for experimenting with etching depths to see what they could obtain.

William F. Alexander, Photoengraving Supt. at the Cleveland *Press*, was asked to give a description of the zinc faced magnesium metal used for engravings at that newspaper. In answering the query, Alexander declared that magnesium was the metal of the future. He made this statement, he said, because of its light weight, faster etching time and long wearing qualities. He added that the supply of magnesium is inexhaustible. A complete description, as well as illustrations, of the bi-metallic plates discussed by Alexander appeared in the January 1952 issue of *Printing Equipment Engineer*.

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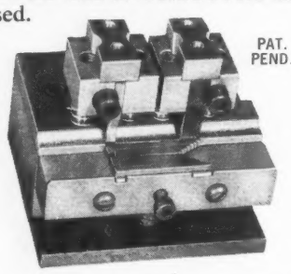


The Align-A-Mat

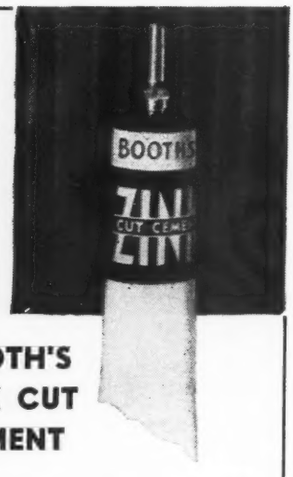
This precision-built tool will correct worn lugs on mats so they will distribute properly. The same operation will also restore alignment. When sorting up fonts, old mats will align with new ones.

Over 400 leading large and small newspapers, job printers, trade and ad shops are using the *Align-A-Mat* and saving **time** and **money**.

The *Clean-A-Mat* helps eliminate hairlines.

Please write for descriptive literature.

FISK INDUSTRIES, 130 W. 46th ST. NEW YORK 36, N. Y.



BOOTH'S ZINK CUT CEMENT

BEST for mounting cuts and solidifying type elements for standing ads. It mounts cuts quickly and holds them tighter. Used in printing plants all over the country. Get your order in now for a supply necessary for your needs.

Prices: 75c per tube, $6.00 per dozen in the United States.

E. A. BOOTH RUBBER CO.
2855 Scarboro Road
Cleveland Heights, Ohio

Equipment & Supplies

(Continued from Page 29)

ment permits handling work on the press as small as postcards. Designed for protection of the operator's fingers, it also safeguards the die should a spanner device inadvertently be left between the lower die and the pressure plate when the press is started. Other safety devices include guards around all moving gears and pulleys and a foot check pedal.

Ink agitation in the fountain is provided by the ink transfer roller which revolves within the fountain itself. Additional information concerning the Vokes press is available by mentioning PEE No. 432 in your request.

Motor Service Plan

A PROGRAM to provide service on inoperative small electric motors has been announced by the General Electric Co. Called the Small Motor Service Station Plan, the program is expected to improve previous exchange plans by providing more repair stations for G-E fractional horsepower and small integral horsepower motors, said W. D. Lee of the Small and Medium Motor Dept. Under the plan, an authorized service station will provide in- and out-of warranty service on G-E motors, generators and motor-generator sets of 1/20 to 15 h.p. and ¼ to 10 kw. The service will include general repairing, furnishing renewal parts and exchanging motors for those that are inoperative. If further details are desired, please refer to PEE No. 523.

Pressure-Sensitive Adhesive

AN open-tack and pressure-sensitive adhesive developed for self-sealing purposes on paper bags, envelopes, boxes and cartons, has been announced by Dennis Chemical Co. Designated Dennis No. 3143 Adhesive, it is applied to two surfaces and dries by air. Sponsor states that by subsequent pressure of one coated surface to the other an immediate bond is formed. For more details, please mention PEE No. 525 in your request.

Typing for Reproduction

THE use of the Remington Rand Carbon - Ribbon Electri - conomy typewriter for preparing copy for photographing or duplicating reproduction processes is discussed in a four page bulletin prepared by Remington Rand Inc. Illustrations of the machine are accompanied by descriptions of its features. The machine is also equipped with a fabric-ribbon mechanism making it possible to alternate its use for types of work requiring either a fabric or a carbon ribbon. Copies of the bulletin are available by mentioning PEE No. 439 in your request.

Miller Press Catalog

IN A recently issued 14 page catalog is described the 21 in. by 28 in. SW Single Color Automatic Cylinder Press manufactured by the Miller Printing Machinery Co. Included are a number of illustrations and diagrams of different views of the press and its various parts. Produced in a commercial shop on a 21 in. by 28 in. SW, the catalog not only describes the press but contains specimens of work examples executed on the press. Delicate reverse-plate lettering on a 9 in. by 12 in. black solid, four color halftones, and reproductions of pen and ink art work are shown, printed on various weights of paper. Complete press specifications are given, and features of the press are described in detail. If you would like to have a copy of this catalog, please mention PEE No. 527 in your request.

Bauer Bodoni Extrabold

BAUER Alphabets, Inc., has announced the addition of Bodoni Extrabold to the Bauer Bodoni type family. The contrast between the hairlines and heavy strokes of the new type face suits it for advertising purposes, states the sponsor. Bodoni Extrabold is available in a range of sizes from 8 pt. to 60 pt. A specimen sheet showing the all caps and lower case alphabets in each size may be obtained. Requests should be addressed to *Printing Equipment Engineer* and contain PEE No. 434.

Glue Tipping Machine

A PORTABLE electric glue tipping machine, known as the Tipmaster, has been reported by Pierce Specialized Equipment Co. Designed for the glue tipping of snapout and carbon interleaved forms and other jobs, the glue fountain and tipper are made into one unit. Sponsor claims the transparent airtight cover of this unit prevents loss of glue. Sheets may be fed from either left or right sides of the machine or from the center. A portable micro-switch permits either foot or knee control. Weight of the Tipmaster is 65 lbs. Further requests should be accompanied with PEE Reference No. 437.

Champlain Sheeter Bulletin

THE Champlain Sheeter, claimed by the sponsor to cut squared sheets to 1/64 in. accuracy from roll stock, is the subject of a four page bulletin released by the Champlain Company. Several illustrations show the sheeter in operation and accompanying text is descriptive of the operating details. Some of the features touched upon in the bulletin include the 45 deg. running register drive, variable size cut-off, timing clutch and automatically controlled pile lowerator. Performance data for standard

(*Continued on Page 84*)

CLASSIFIED ADVERTISING

ALL CLASSIFICATIONS

$.75 per line 1⅝" wide. Minimum ad 5 lines, 29 characters per line. Cash with order.

CLOSING DATE—15th of Month preceding Date of Issue

We will forward all mail addressed to Box Numbers. When answering Box Numbered ads, address as follows: Box Number . . . PRINTING EQUIPMENT Engineer, 1276 West 3rd Street, Cleveland 13, Ohio.

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Famous since 1936, hundreds of users testify to the effectiveness of STAR CUT CEMENT. Do a better job of mounting photoengravings, stereotypes and electrotypes by using STAR CUT CEMENT. Composing, stereotype, electrotype and photoengraving executives must see that the mounting job is done right. They know the value of a cement that permits mounting cuts quickly and holds them in place. Be sure to use the PROVED cement—STAR CUT CEMENT.
65c per tube—$5.50 per doz.
$5.00 per doz. in 2 doz. lots.
$4.50 per doz. in gross lots.

STAR CEMENT COMPANY
45 Malone Avenue
Belleville 9, N. J.

FOR SALE

Machine Composition Plant in Los Angeles. 3 Linos—100 fonts of mats—magazines—saws—low slug cutters—metal—proof presses—Easy Terms. Box 491, PRINTING EQUIPMENT Engineer.

FOR SALE

Oldest Typography House in Los Angeles authorized for sale by Probate Court. 33 Hamilton Cabinets of finest American and foreign type, Vandercook Presses, Ludlow with 146 fonts, desirable mats. Highly skilled craftsmen. Plant in full operation. Court will consider best offer. Contact William E. Doud Company 5201 Wilshire Blvd., Los Angeles.

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for ROTAGRAVURE · WEB-OFFSET · ANALINE LETTERPRESS
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• Excellent products and policies, incentives, aids, protection, training. Send detailed application today to—

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Superintendent • Offset, Letterpress and Folding Carton Experience	$ 8,000
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Chemists (2)	OPEN

GRAPHIC ARTS EMPLOYMENT SERVICE
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THE DOYLE INFRARED DRYER
Patented
for all types of printing machinery
THE DOYLE VACUUM SHEET CLEANER
Patented
Removes dirt, dust, lint and dry spray from paper while printing
The J. E. Doyle Co., 1220 West 6th St., Cleveland 13, Ohio

BUY AND SPECIFY "AMERICAN"
SYNTHETIC and COMPOSITION ROLLERS
Built for Longer Wear — Better Presswork
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Write for this new booklet that tells how the Mohr Saw produces odd-measure machine composition Instantly—Automatically—Accurately—At Least Cost
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We specialize in dismantling, moving and erecting newspaper and commercial printing presses as well as printing equipment of all kinds. Experienced, trained personnel equipped with modern equipment moves one machine or a complete plant any distance required. All contracts are handled promptly and are fully covered by insurance.

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ROBT. ROYDEN GREER
Printing Engineer
5201 WILSHIRE BLVD., LOS ANGELES 36
PLANT LAYOUT • LABOR-SAVING RECOMMENDATIONS

Equipment & Supplies

(Continued from Page 82)

sheeter sizes maximum and minimum sizes of sheets cut, number of feet of web run per min. and number of sheets per hr. cut from rolls of glassine, paperbacked foil, label paper, heavy paper and cardboard are given in a table. A description of the sheeter appeared in the December 1952 issue of *Printing Equipment Engineer*. Copies of the bulletin may be obtained by mentioning PEE No. 438 in your request.

Demineralization Bulletin

DEMINERALIZATION Including Silica Removal by Ion Exchange is the title of a 28 page, illustrated, 8½ in by 11 in. bulletin issued by The Permutit Co. Demineralization and silica removal through the medium of ion exchange resins is used in many industries, such as power plants, electroplating and textiles. In this bulletin are described chief applications, principles of operation, design features, advantages, recommendations and specifications of Permutit's demineralizing and silica removal apparatus and synthetic resins. A copy may be obtained by mentioning PEE No. 528 in your request.

Fluorescent Exposure Frames

DEVELOPMENT of a vacuum exposure frame for fluorescent exposure of offset plates for presses up to 17 in. by 22 in. in size, has been announced by Colwell Litho Products, Inc. Known as CoLight frames, the units are designed for use on any conveniently located table top. Any of the pre-sensitized offset plates now available can be exposed with the exposure frames, as well as standard grained metal plates.

The CoLight units used a louvered glass which is said will straighten out the fluorescent light rays and reflect them directly over the copy. Sponsor states the frames may be used for halftone and line work.

Two units are available. The Model BV 1722 is designed for exposure of plates for 17 in. by 22 in. Harris and Webendorfer presses. The Model BV 1617 will accommodate plates for the 14 in. by 20 in. Webendorfer, Model 2066 Multilith and Model 233 Davidson presses.

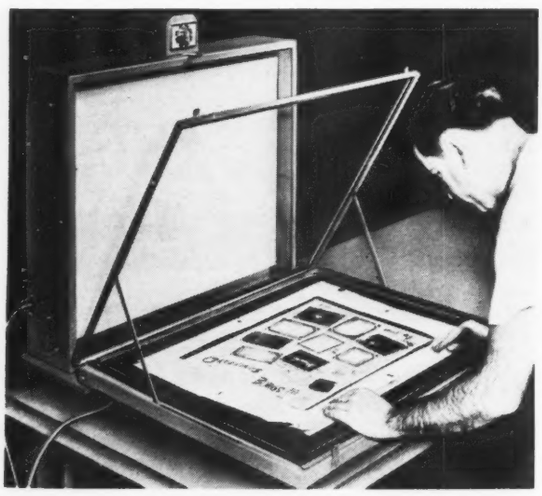
If you wish further information, please mention PEE No. 522 in your request.

Typewriter Composition

INFORMATION on how to prepare bulletins and brochures on the IBM Electric Typewriter is contained in the typewriter instruction booklet *How To Make A Perfect Impression*, issued by International Business Machines Corp. Contents of the 36 page, two-color booklet include the procedure for preparing copy with a straight right-hand margin. Other features are an explanation of proportional letter spacing and a guide to unit measurements of letters. Discussed also are the changing of carbon and fabric ribbons, how to vary regular line spacing and relocating the typing position. Copies are available by requesting PEE No. 435 in your correspondence to *Printing Equipment Engineer*.

Thy-mo-trol Drive Bulletins

TWO bulletins in which are described Thy-mo-trol (thyratron motor control) drive have been announced as available from the General Electric Co. Applications of the drive system includes printing presses, conveyors, testing equipment and other uses. A simplified Thy-mo-trol drive for ¾ to 3 h.p. applications, is discussed in bulletin GEA-5829. The second bulletin, GEA-5827, covers the precision controlled Thy-mo-trol drive for ¾ to 10 h.p. uses. Each bulletin contains illustrations and diagrams to explain the systems and covers four pages, printed in two colors. Copies of both pieces of literature may be obtained by simply referring to PEE No. 436 in your request.



The CoLight vacuum exposure frame designed for fluorescent exposure of 17 in. by 22 in. and smaller offset plates, developed by Calwell Litho Products, Inc.

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February 1953

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MELBURN O. SIMMONS, Mid-West Manager, 333 North Michigan Ave., Chicago 11, Ill. Phone DEarborn 2-6467.

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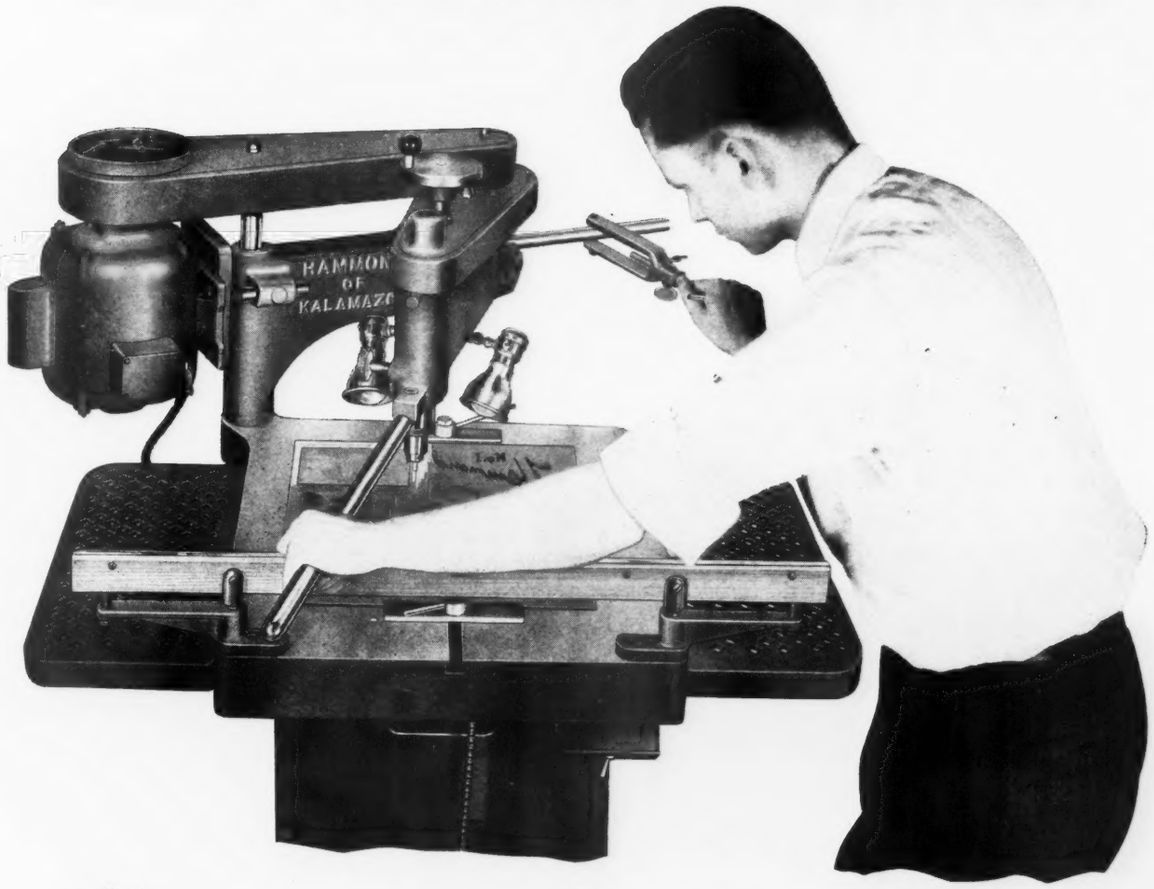
a GOOD *Radial Router* at a MEDIUM PRICE!



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There are all kinds of radial routers . . . cheap and inadequate . . . *the good Hammond Radial Router at a medium price* . . . and the higher priced extra sensitive engravers' routers.

The Hammond Radial Router has what it takes to give you good routing performance and years of trouble free service. The ball bearing spindle runs at 12,000 RPM. It incorporates greased sealed bearings, quill and spline shaft. The pulleys and other parts are dynamically balanced for smooth, vibration free operation. The Hammond Radial Router is fully powered, ruggedly built and has good "feel" and sensitivity. The machine has a capacity of up to full-page plates. *The Hammond Radial Router is a good machine at medium price.* Write for complete information, there is, of course, no obligation.

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When it comes to *VERSATILITY* you can't beat INTERTYPE® MIXER line composing machines. They take every class of work in stride . . . text, heads, display, job work. Here's why . . .

Quick mixing of mats from adjacent magazines with the Finger-flip Shift.

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Two Basic Intertype Mixer Models

MODEL F
(90 Channel Main Magazines)

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(Combination 72 and 90 Channel Magazines)

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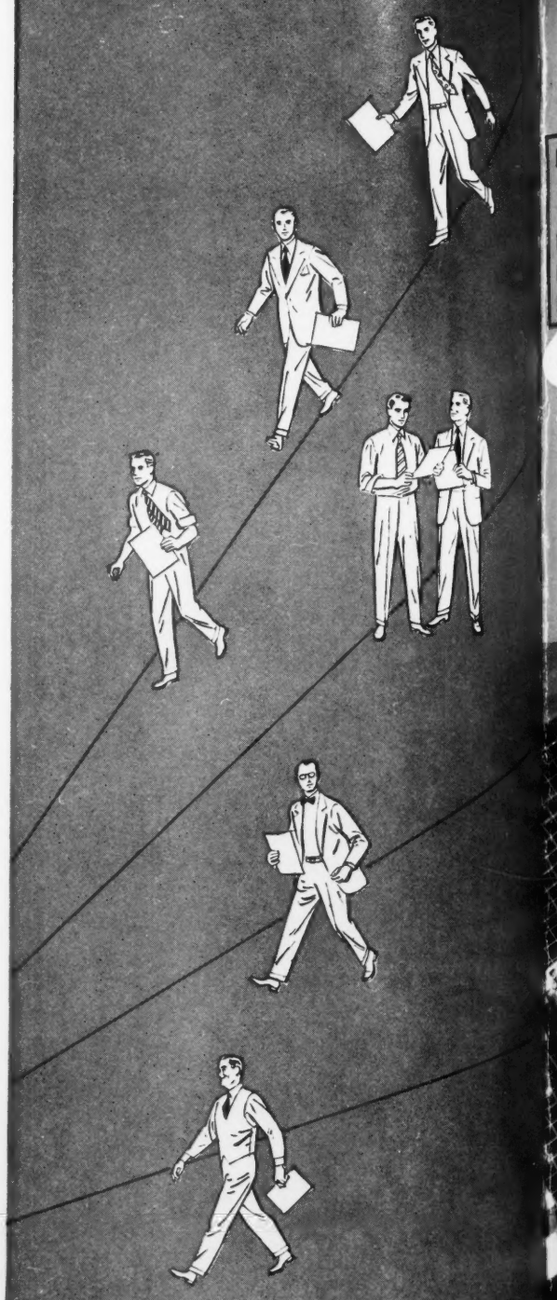

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